

THE LAND USE
HANDBOOK
Section 5

Design Ideas

CZIC COLLECTION



Maine Dept. of Conservation

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DEPARTMENT OF CONSERVATION

LAND USE REGULATION COMMISSION

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November 1978

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Design Ideas

- For
- Your home and the land
 - Subdividing your land
 - Surface mining your land
 - Sign design

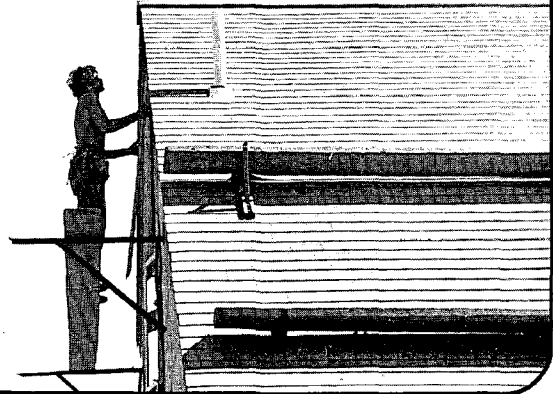


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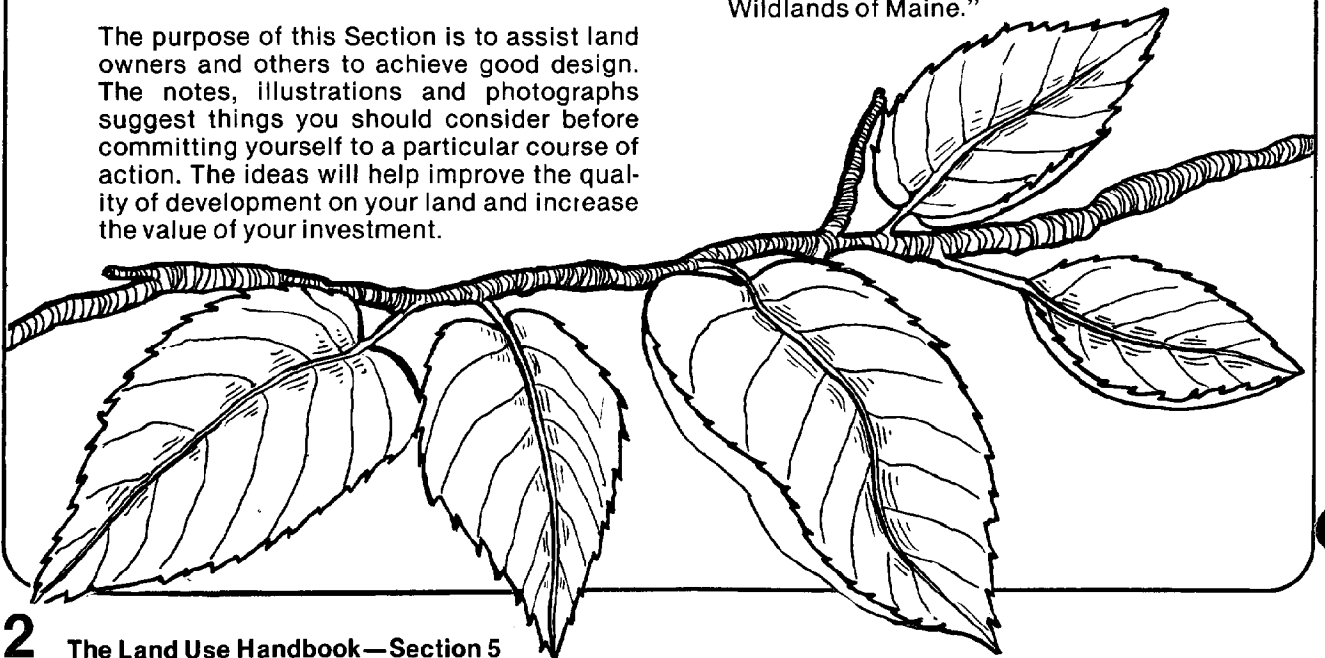
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Introduction

Section 5 of the Land Use Handbook contains design ideas for siting homes, subdividing land, working borrow (sand and gravel) pits and designing signs.

The purpose of this Section is to assist land owners and others to achieve good design. The notes, illustrations and photographs suggest things you should consider before committing yourself to a particular course of action. The ideas will help improve the quality of development on your land and increase the value of your investment.

This Section complements two other publications available from the Maine Land Use Regulation Commission—"Building in the Wildlands of Maine" and "Subdividing in the Wildlands of Maine."

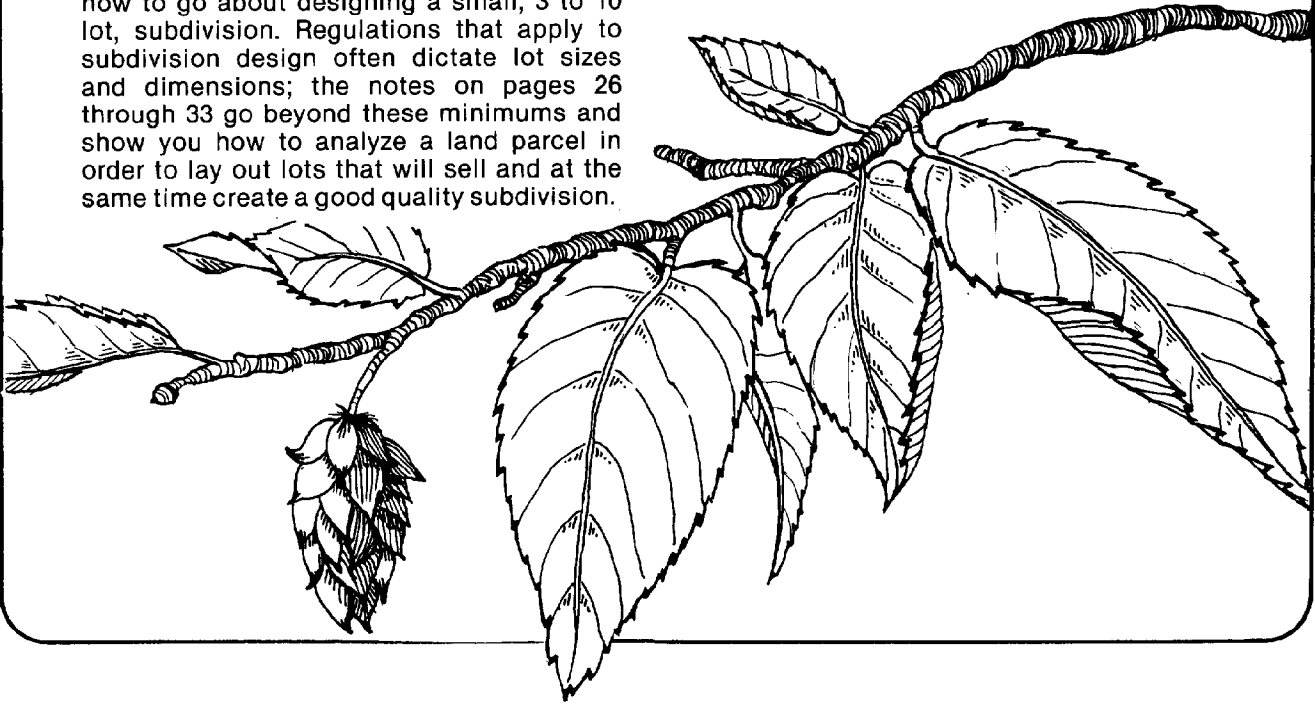


Section 5 is divided into four parts. The first part focuses on how a home should be placed on the land. Site conditions and energy saving ideas you should consider before you buy and before you build are described and illustrated. Special attention is given to building on the shorefront, placing a mobile home, landscaping, and designing an energy efficient home.

The second major part of Section 5 suggests how to go about designing a small, 3 to 10 lot, subdivision. Regulations that apply to subdivision design often dictate lot sizes and dimensions; the notes on pages 26 through 33 go beyond these minimums and show you how to analyze a land parcel in order to lay out lots that will sell and at the same time create a good quality subdivision.

Surface mining operations are described in the third part of this Section. The text covers three issues: how to plan for extracting material; how to work the pit; and how to reclaim the pit once operations are complete.

The final part of this Section contains ideas for designing and placing signs to advertise a business on your property.



Please Note: This section is intended for general information. It is not intended for legal reference.

Your home and the land



Before you buy land or build

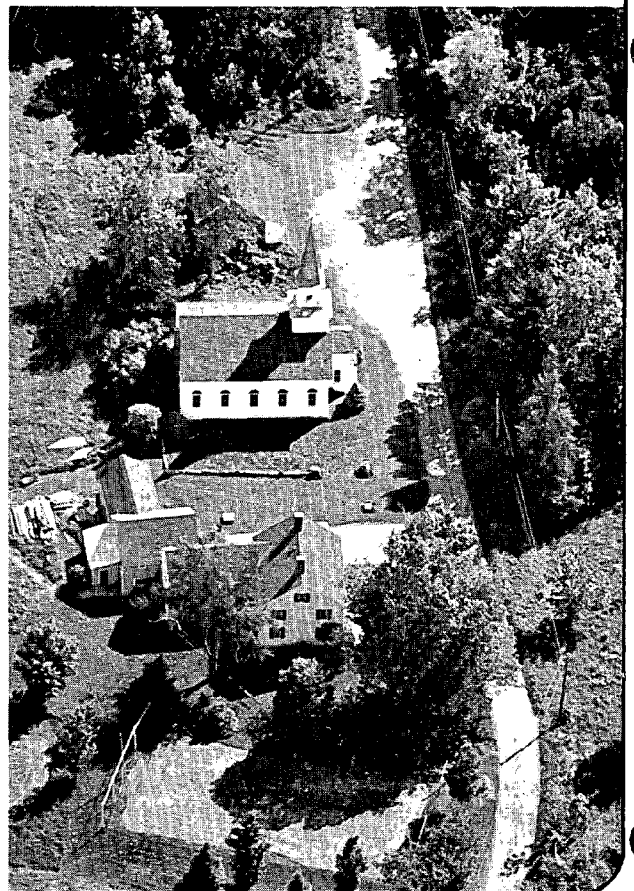
Your decision to buy land for a home or camp is an important one. Before you commit time or money to any piece of land make sure you have checked it out completely. Is it really what you want? Is it well located? Can your land accommodate a sewage system? Is it a good investment? The information on the following pages will help you make a sound decision.

Select a location that meets your needs

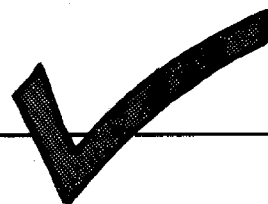
Is the land convenient to work, school, shopping and recreation? Is the area developing rapidly or slowly? Is this what you want?

Are the local services adequate? Are the dump, fire department, police force, library, health services, school system, road maintenance, and other services sufficient to meet your needs?

Are local taxes reasonable? Does local zoning protect your investment by assuring that adverse development will not occur next door? If the land is in a subdivision, are there protective covenants that help assure quality development? Are there lakes, woods, mountains or parks nearby to satisfy your year-round, outdoor recreation needs?



Before you buy—a checklist



Is the land good for building?

Physical considerations:

- ☐ Is the land accessible by road year round?
- ☐ Are the soils suitable for a waste-water sewage system?
- ☐ Are the slopes reasonable for constructing a driveway and home?
- ☐ Is water available from a spring, lake or well?
- ☐ Can electrical and telephone services be provided?
- ☐ Is the land where you will build or place a septic system high and dry?

Legal considerations:

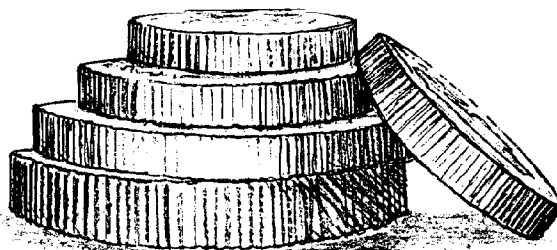
- ☐ Do land use regulations for the area allow you to construct buildings and make improvements?
- ☐ Can you meet applicable lot size, setback and frontage requirements?
- ☐ Has the land been surveyed so that you know exactly what you are buying?
- ☐ Has a title search on the land been completed and does it show that the seller really owns the land and that the title is "clear?"
- ☐ Are there any restrictions in the deed?
- ☐ If the land is in a subdivision, is it a legal subdivision, recorded in a Registry of Deeds?
- ☐ If the land is in a subdivision, what services will the subdivider provide?

Other questions worth considering:

- ☐ Can you obtain firewood for your use from the land?
- ☐ Can you make use of the sun's heat by locating the house on a southern slope?
- ☐ Are there opportunities for views from the site?
- ☐ Are there natural fire breaks that lessen the chances of a forest fire burning your land or home?
- ☐ Does the land have unique features like old stone walls or sugar maples that make it more valuable or attractive?
- ☐ Is there valuable timber on the land that you can market?
- ☐ Are the soils good for farming and gardening?
- ☐ Is the best home site on the land easily accessible?
- ☐ Are there opportunities for outdoor recreation on the land?

Do not put your money down unless you are sure

Use the checklist above to find out if you are making a good buy. Talk to persons in the neighborhood, walk the land, compare prices with similar land, visit the local town office (or call the Land Use Regulation Commission, if the land is in an unorganized area). People familiar with the area can provide up-to-date information on regulations, prices, problems, contractors, etc.



You can save by planning, on paper, where to place a home on the land before you build. A home that is well placed and designed to fit the site can:

-

The final location you select for a house on your land should take many factors into consideration, including those listed on pages 7-10. After looking at those pages and the examples on pages 11 and 12, decide what factors are important to you and follow these steps:

-
- A hand-drawn site plan of a property, oriented with North at the top. The plan includes the following features and annotations:
- North Arrow:** Located at the top right, pointing upwards.
 - Wind Direction:** Two arrows at the top left point towards the bottom right, labeled "Direction of cold winter wind".
 - Top Field:** A large area filled with star-like symbols representing pine trees. Annotations include:
 - "Steep slope & ledge - no good for building" (in a box).
 - "Pine trees - will act as wind-break" (in a box).
 - "Soil test hole" (marked with a small square).
 - "Mid summer sun set" (with an arrow pointing down-right).
 - "Mid winter sun rise" (with an arrow pointing up-right).
 - "Mid summer sun rise" (with an arrow pointing down-right).
 - "Mid winter sun set" (with an arrow pointing up-right).
 - "Soil test hole" (marked with a small square).
 - "NICE VIEWS" (with a curved arrow pointing right).
 - Old field (good soils):** Located below the top field, containing a cloud-like shape labeled "group of hardwoods to be thinned".
 - "GENTLE SLOPE" with a downward arrow.
 - "Poor soils, for septic field in this area" (along a dashed line).
 - "Soil test hole" (marked with a small square).
 - Left Boundary:** A vertical line labeled "Keep old stone wall".
 - Bottom Boundary:** A horizontal line labeled "GRAVEL ROAD".
 - Below the road is a "Best driveway location" indicated by an arrow.
 - Along the road is a "Nice line of old maples" represented by several tree symbols.
 - To the right of the road is a "Steep bank".
 - WET AREA:** A shaded, irregular area at the bottom right, labeled "WET AREA".
 - Property Line:** A vertical line on the right side labeled "PROPERTY LINE".

Placing a home on the land— factors to consider

Make sure the soil conditions are satisfactory

Poor soils can make building difficult and expensive. Make sure the soil conditions where you plan to build the house, driveway, waste disposal bed, or other structures are satisfactory. Ideally, the soils should be free of clay, deep, well-drained and not subject to flooding.

Consult a licensed soils evaluator. A list of evaluators is available from the Dept. of Human Services, State House, Augusta, Maine 04333. Phone (207) 289-3826.

Will the water supply be reliable?

Drilled wells are the most reliable source of water. Check with local people and well drillers to find out the quality of the water and at what depth the water is found.

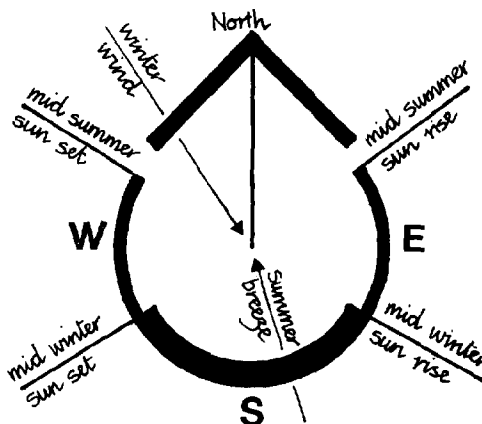
Be aware of possible sources of contamination such as road salt, dumps, nearby septic disposal systems, gas stations, etc. Refer to the "Ground Water Handbook for Maine".

Sun and wind directions

Use the diagram on the right to find out where the sun will rise and set relative to your land. Then plan the location of your rooms and windows so as to get a maximum of sun.

Plan to minimize the effect of cold winds from the north-west and to catch the cooling affect of summer breezes.

Directions apply to Maine

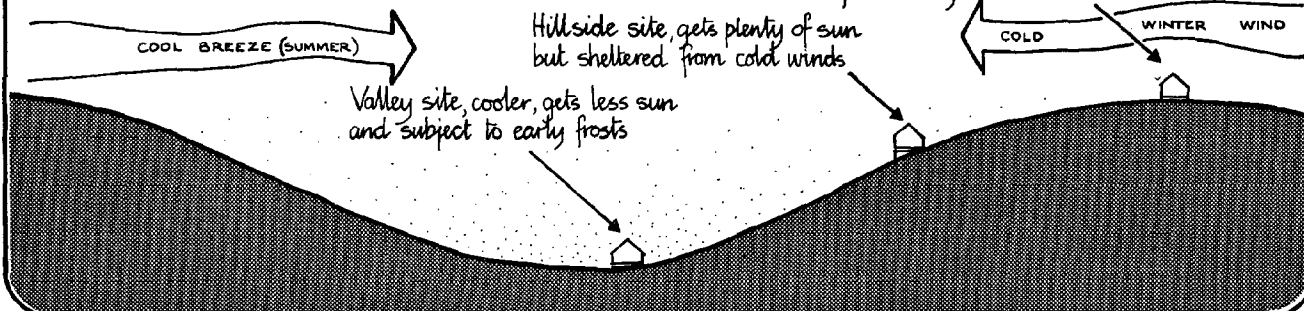


The advantage of a hillside location

Hill-top site, gets plenty of sun but subject to icy winter winds

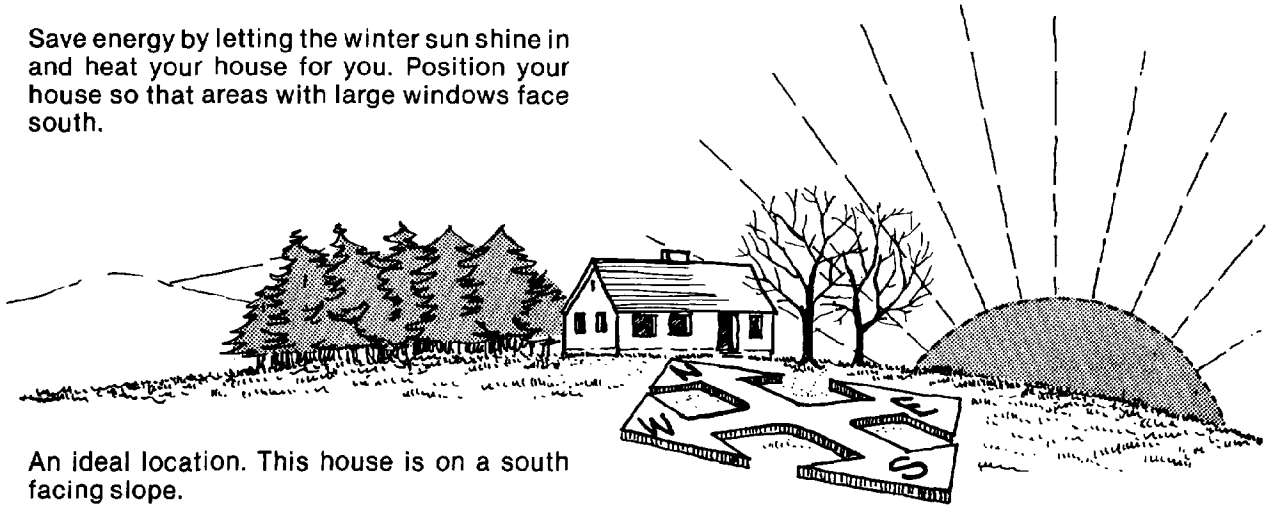
Hillside site, gets plenty of sun but sheltered from cold winds

Valley site, cooler, gets less sun and subject to early frosts



Place your home so it gets a maximum amount of winter sunlight

Save energy by letting the winter sun shine in and heat your house for you. Position your house so that areas with large windows face south.

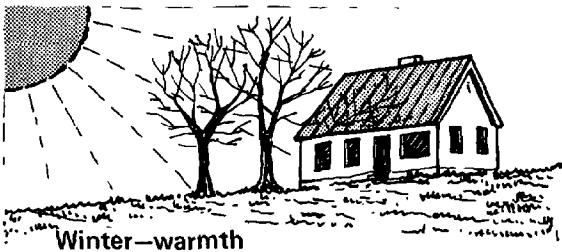


An ideal location. This house is on a south facing slope.

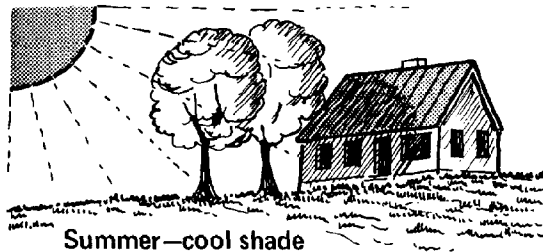
Use hardwood trees to shade your house

Try to position your house on the north side of large hardwood trees like maple, oaks, birches, etc. They act as natural air-con-

ditioners. The leaves provide cool shade in summer and in winter the bare branches let in the sunlight.



Winter—warmth

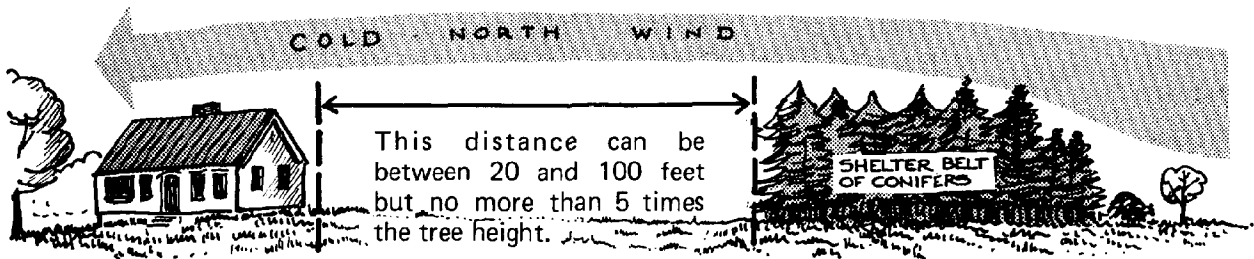


Summer—cool shade

Use trees to protect your house from cold winds

A natural shelter belt of softwood trees such as pines, spruce, or hemlock helps create a calm area around the house.

Trees to the north of your house break cold winds that can increase your heating bill.



This distance can be between 20 and 100 feet but no more than 5 times the tree height.

Take advantage of the view

A good view adds value to the property. Place the house so that living areas and large windows can face the view (and, if possible, face south).

Locate the house so that any unattractive views are screened or can be screened with planting a fence, garage...etc.

Consider nearby views as well as distant ones. Trees or a rock wall in the foreground can frame a view of a lake, mountains or farmlands.

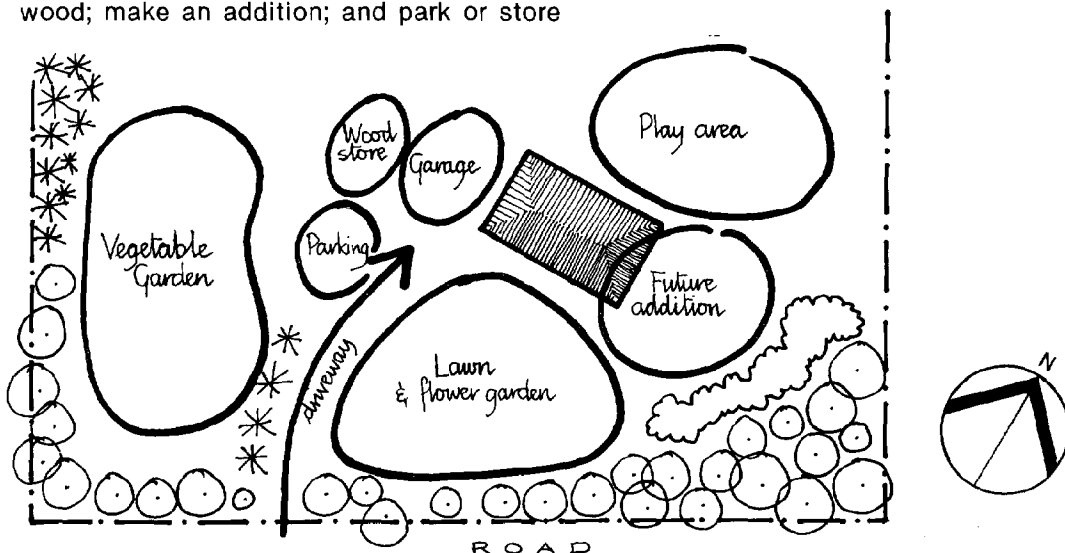


Decide where outdoor areas will be located

The area surrounding the house site must be planned to accommodate outdoor areas and activities.

Before you settle on a final house location decide where you wish to: put in a garden; clear for a lawn and children's play area; build a garage, shed or other accessory buildings; park the car and guests cars; store wood; make an addition; and park or store

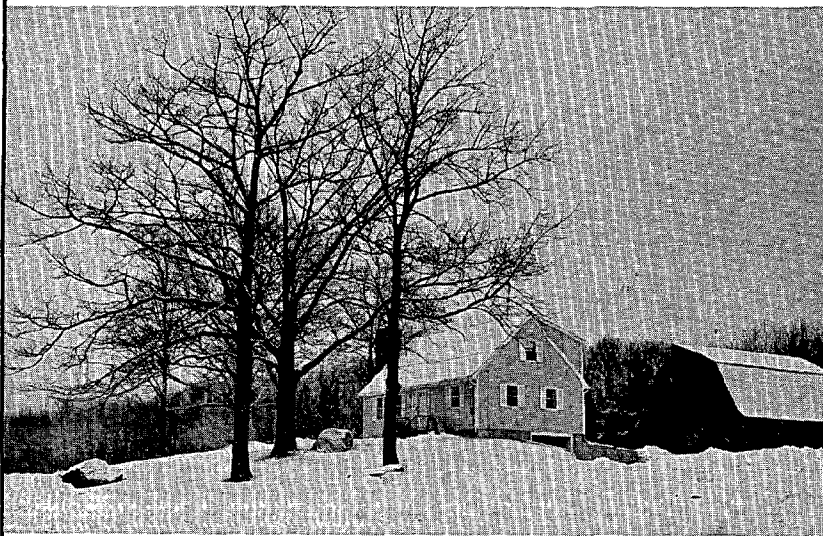
recreational vehicles. Place these facilities so they are convenient to use and work in harmony with each other. For example, the wood pile should be in a location where wood can be unloaded, split, stored and brought indoors easily, without blocking the driveway or destroying the children's play area.



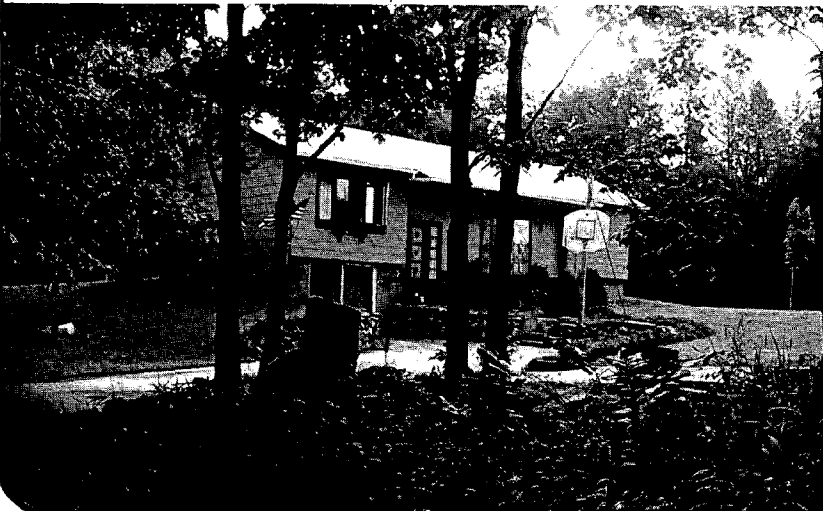
Examples of some well-sited houses



A new house that blends with traditional styles nearby. This house is on a south facing slope and has large windows on the south side. Small windows on the north and east, and a broad screen of trees to the north (on the left in photo) all help reduce heat loss.



This house takes advantage of the site. The trees provide a cooling effect in summer; boulders have been retained as landscaping features; the living room of the house face south (left in photo) and the garage is set under the house which sits on a small hill.



Angled away from the road to catch both sun and view, this house gains heat from large windows. The earth insulates the lower floor on the north, west and east, trees to the north act as a wind barrier.

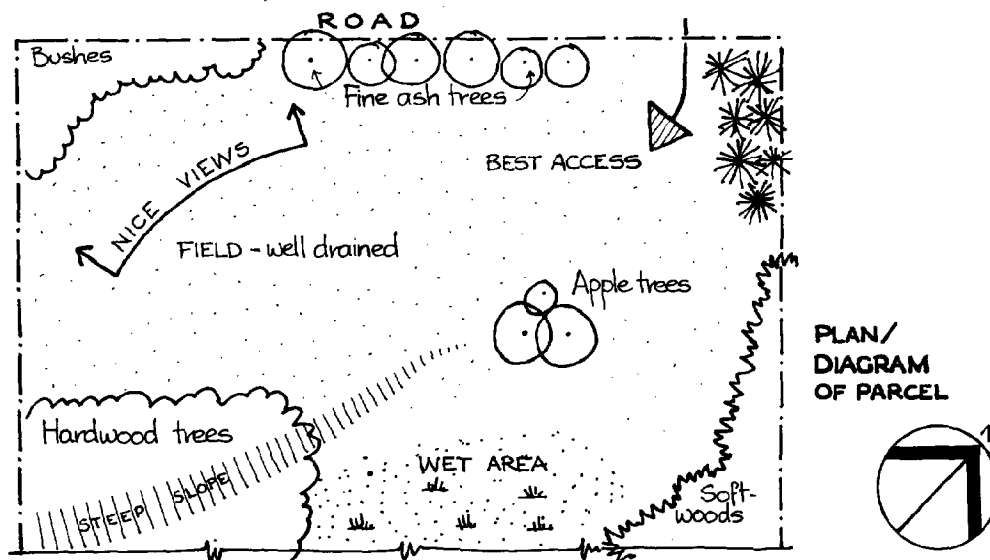
All three homes are set well back from the road on well-drained sites.

A Story—A house tailored to the land

The First Step

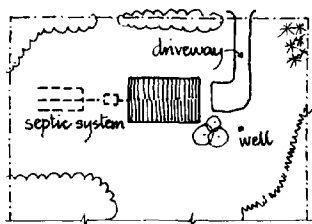
Mike and Maureen moved their mobile home out of the trailer park and onto 2 acres of rural land shortly after they were married. As an electrician and the father of a growing family, Mike realized that he wanted to build a well-insulated house and sell the mobile home. Maureen agreed; as bookkeeper she had watched the electric bills climb and the value of the mobile home drop.

Mike and Maureen had little difficulty sketching out a plan/diagram of their parcel. They knew that if they placed their new home carefully they could take advantage of the land's best features and build a house tailored to their land and their needs. The diagram they drew looked like this and was drawn roughly to scale.

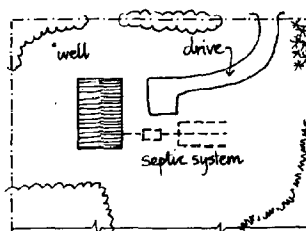


The Next Step

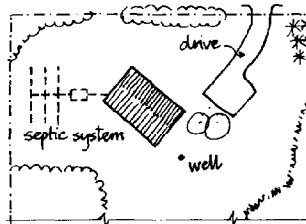
The next step was to test the advantages and disadvantages of different house locations. The sketches below show how they reached a final decision.



Small front yard; does not take advantage of view, could face south more, too close to road - not the best solution.



Driveway cuts across front yard; well too close to road; septic system in wet soil, (poor location); house does not take advantage of views of sun - not best solution.



Takes advantage of views & direct southern sun; well set back from road; septic system on well drained soil; nice front yard - this is how Mike & Maureen sited their house.

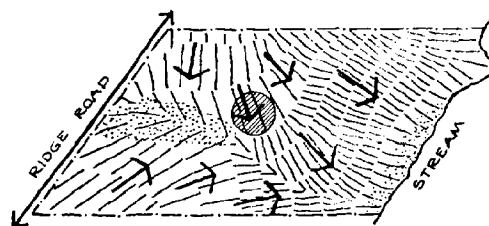
Placing a home on a large lot

Analyze the land before you decide where to build

The larger the land parcel, the more difficult it is to select a house site—there are more options. One way to make a decision is to carefully list what is important to you and then analyze the land, as shown in the example below.

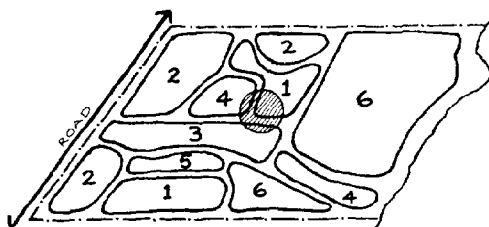
In this example of a 60 acre lot the owners wanted a house location with: privacy in a woodland setting; well drained, southward facing slopes; softwood trees to the north and west of the house (as a wind break); easy access on a driveway that was simple to plow; and both distant and nearby views.

A Site Analysis



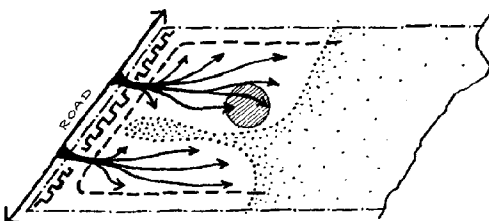
SLOPES & SOILS

- ////// Relatively flat land - garden sites
- ||||| Steep hillsides
- Wet soils unsuitable for building
- Direction of slope (down)
- Final site for house & garden



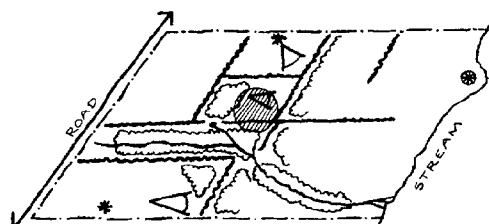
FIELDS & WOODLANDS

- 1 Old fields & brush (clear for garden)
- 2 Mixed hard & soft wood (firewood)
- 3 Mature hardwood +8" diam (")
- 4 Pinewoods 6" to 10" diam (windbreak)
- 5 Young birches 2" to 4" diam
- 6 Mixed hardwoods 4" to 12" diam



ACCESS *

- Alternative driveway alignments
- Inaccessible by truck
- ||||| Steep bank or wet soils
- Buffer along property line
- * Assume no grading



FEATURES

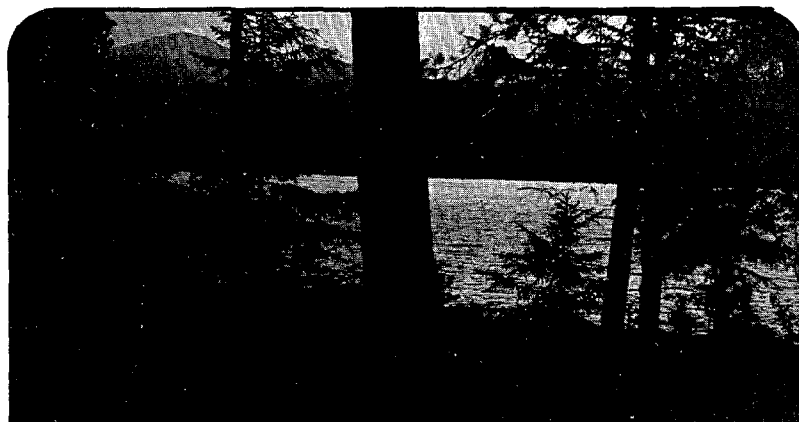
- Old stone wall
- △ View points
- Y Stream & spring
- Most beautiful trees
- * High point ● Promontory

● Placing a home on shorefront property

All property in Maine within 250 feet of the ocean, and most rivers and streams, and lakes or ponds of 10 acres or more, is subject to shoreland regulations.

Before you buy, build or clear land in these areas find out what regulations apply to you.

Check with your local officials or, in the unorganized areas check with the Land Use Regulation Commission and see section 3 pages 25 and 30.



Save trees

Shoreland regulations require that you do not cut more than 30% (or 40% if you live outside L.U.R.C's jurisdiction) of the trees near the water within any 10 year period. Use trees to frame and beautify the view.

● Shoreland trees beautify lakes and streams

Trees and shoreland vegetation:

- bind the soil and prevent erosion
- reduce the wind chill off the water
- enhance property values
- cool your home in summer
- reduce pollution by using nutrients

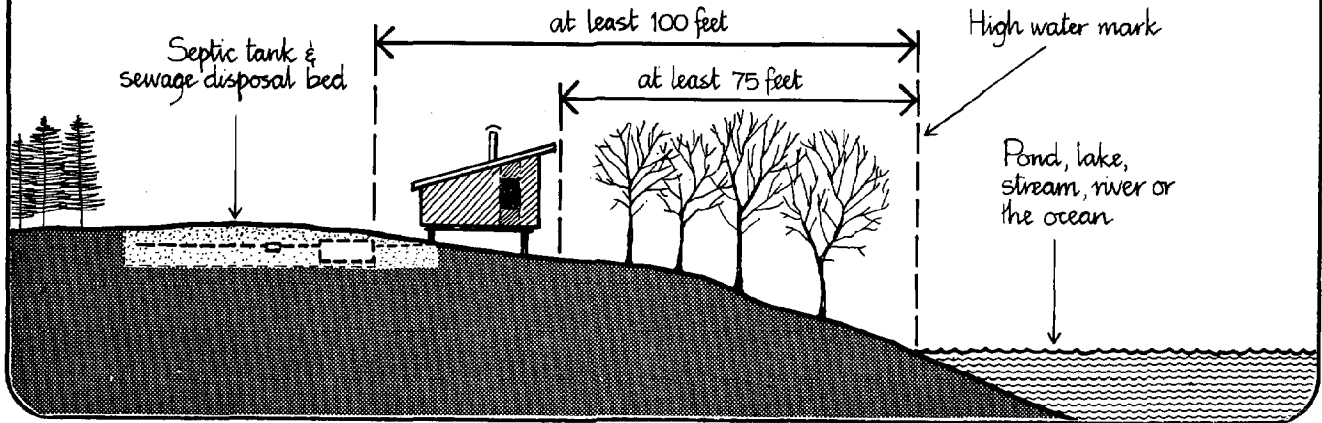
Too many folks don't realize that building and cutting trees too close to the water spoils the beauty of Maine's lakes and streams.



Set your house or cabin back from the water

In general, shoreland regulations require that most structures be set back at least 75 feet from the high water mark of ponds, lakes, streams, and the ocean. Sewage disposal beds must be set back 100 feet.

These measures help prevent polluted water from flowing directly into lakes, streams and the sea and help to maintain the scenic beauty of Maine's waterways and coast.



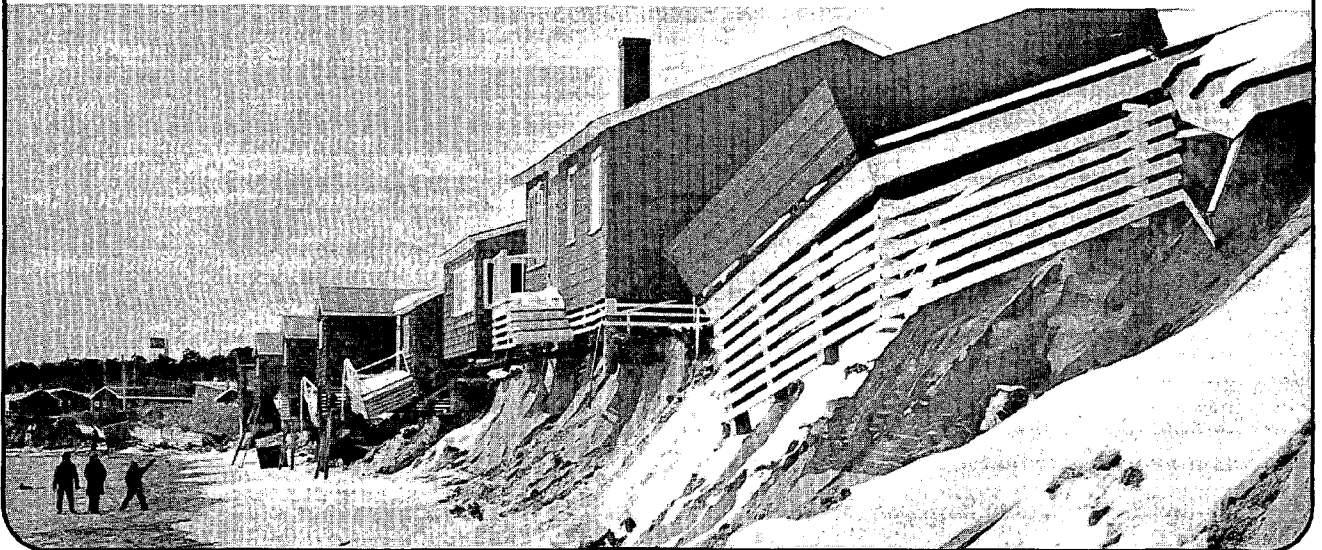
Do not build on coastal sand dunes

Dunes are moving barriers that buffer the land against the strength of the sea; they respond to wave action; they act as effective sea walls and supply sand to naturally eroded beaches. Buildings in dune areas temporarily halt these natural processes. Wave action will eventually undermine and destroy structures located on dunes.

Note

For more information on shoreland development:

If your land is in an organized area refer to Section 2 pages 14 and 18; for land located in L.U.R.C.'s area see Section 3 pages 25 & 30.



How to place a mobile home

Ideas for mobile home owners

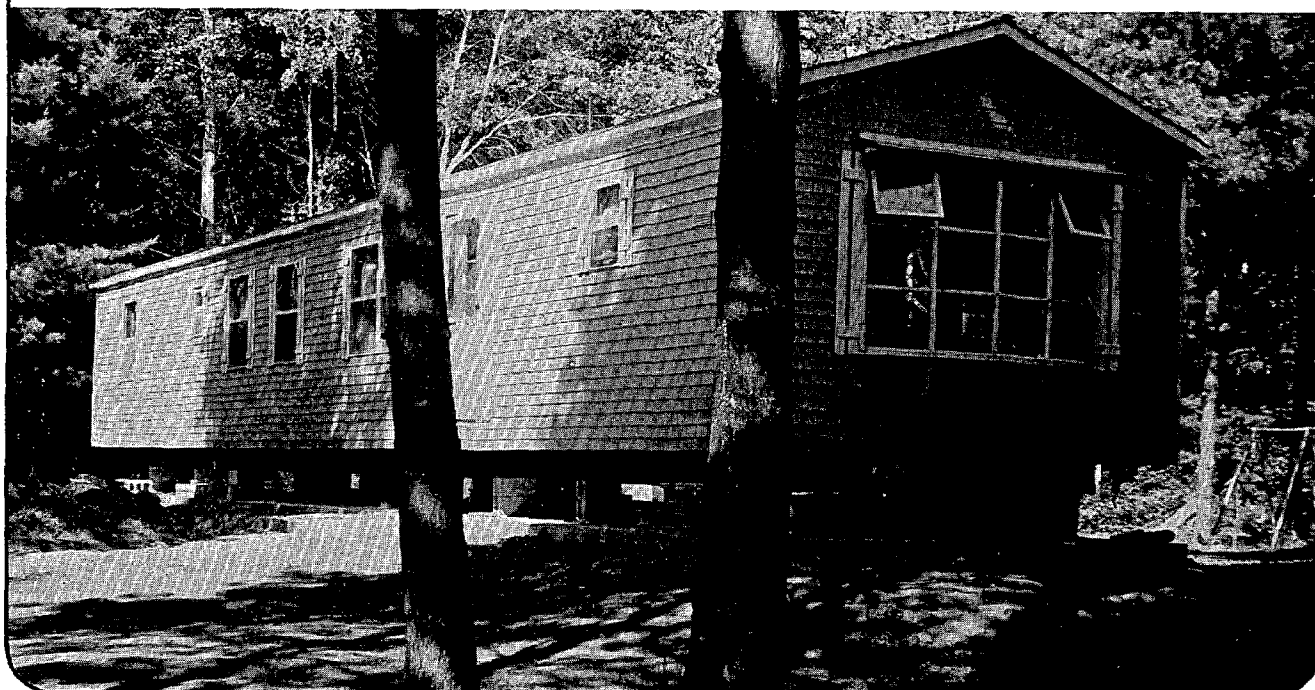
Like conventional home owners, mobile home owners can add to the value of their investment by planning, on paper first, where to place the home on the lot. The preceding

pages provide advice on selecting a good home site. The following notes present further ideas for mobile home owners.

Placing the mobile home

Place your mobile home so that:

- you select the best site for it, instead of the site where it is easiest to haul the home. You can make the most of your lot's assets by carefully maneuvering the home between trees or other features.
- it fits parallel to the contours of the land
- you allow space for storage, parking, a lawn, and other outdoor needs
- you minimize highway noise and gain some privacy by:
 - keeping trees and shrubs along the road
 - setting the home well back from the road
 - putting the home at an angle (or at right angles) to the road.

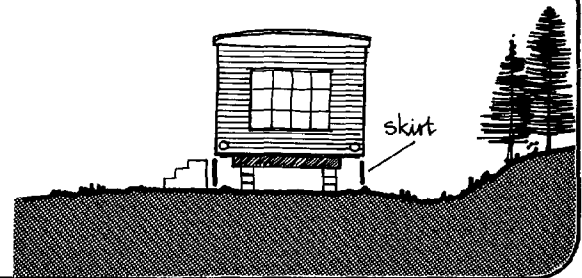


Install a skirting around the mobile home

A strong, permanent “skirt” around the home:

- cuts down heating bills
- provides storage space
- improves the appearance and
- lessens wind “lift.”

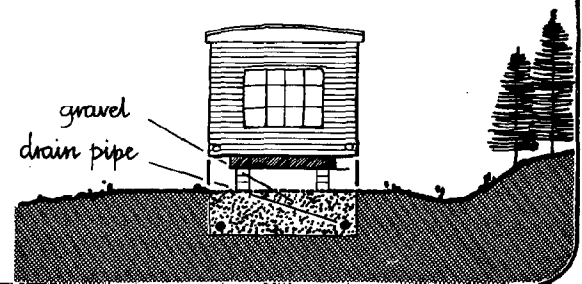
Treated wood, concrete blocks, or painted sheets of metal or asbestos on a framework, make good skirts.



Provide a firm, frost-free foundation

Three to four feet of well-drained and compacted gravel forms a good base for the home supports. Pole, slab, block, or concrete strip supports should be placed in or on top of the gravel.

A drain pipe which drains water away from the gravel base will prevent frost heaves.

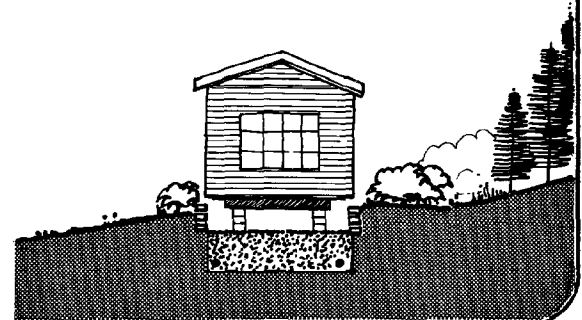


Consider these design features:

Excavation and the planting of dense shrubs around the home help reduce the amount of wall exposed to cold winds.

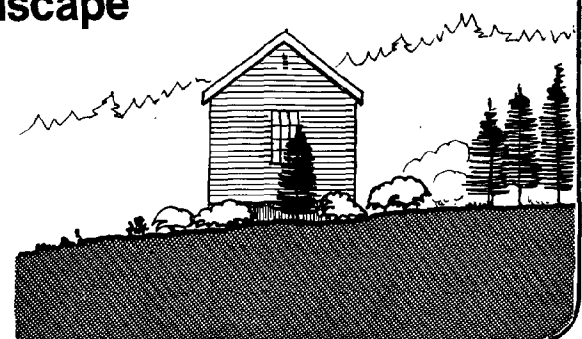
A sloping roof built over a flat roof sheds snow, thereby reducing snow loads. This second roof increases the insulation value of your home.

A home that is protected from the wind will cost less to heat.



Select a style that fits into the landscape

Modern mobile homes look best when they are styled to look like traditional New England houses with white clapboards and dark sloping roofs, or when they use natural looking colors.



Landscaping

Design with nature

The natural landscape of your land may offer many features you can use to enhance your surroundings. For example:

- if the ground slopes, adapt your design to fit the slope; do not bulldoze your land flat or bring in yards and yards of fill;
- if there are old stone walls, rock ledges or boulders on the land, incorporate them into your design;
- if there are nice trees on the land, work around them and only clear what you must for construction purposes; you can cut or prune later if you wish; do not fill around trees, it can kill them;
- if you want to retain a natural, rural feeling, use shrubs, vines, ground covers and grasses that are found in the area and keep lawn areas to a minimum.
- to prevent erosion, seed areas where construction has removed vegetation.



Design to fit in with the existing environment

If you want your home to blend in with the natural wooded environment of a lakeshore or mountain side, use:

- natural materials such as wood, stone, and brick;
- natural looking paints, stains and finishes; and
- dark colored roofing materials, such as dark brown, dark green, grey or black.

If you want your home to blend in with traditional house styles, consider:

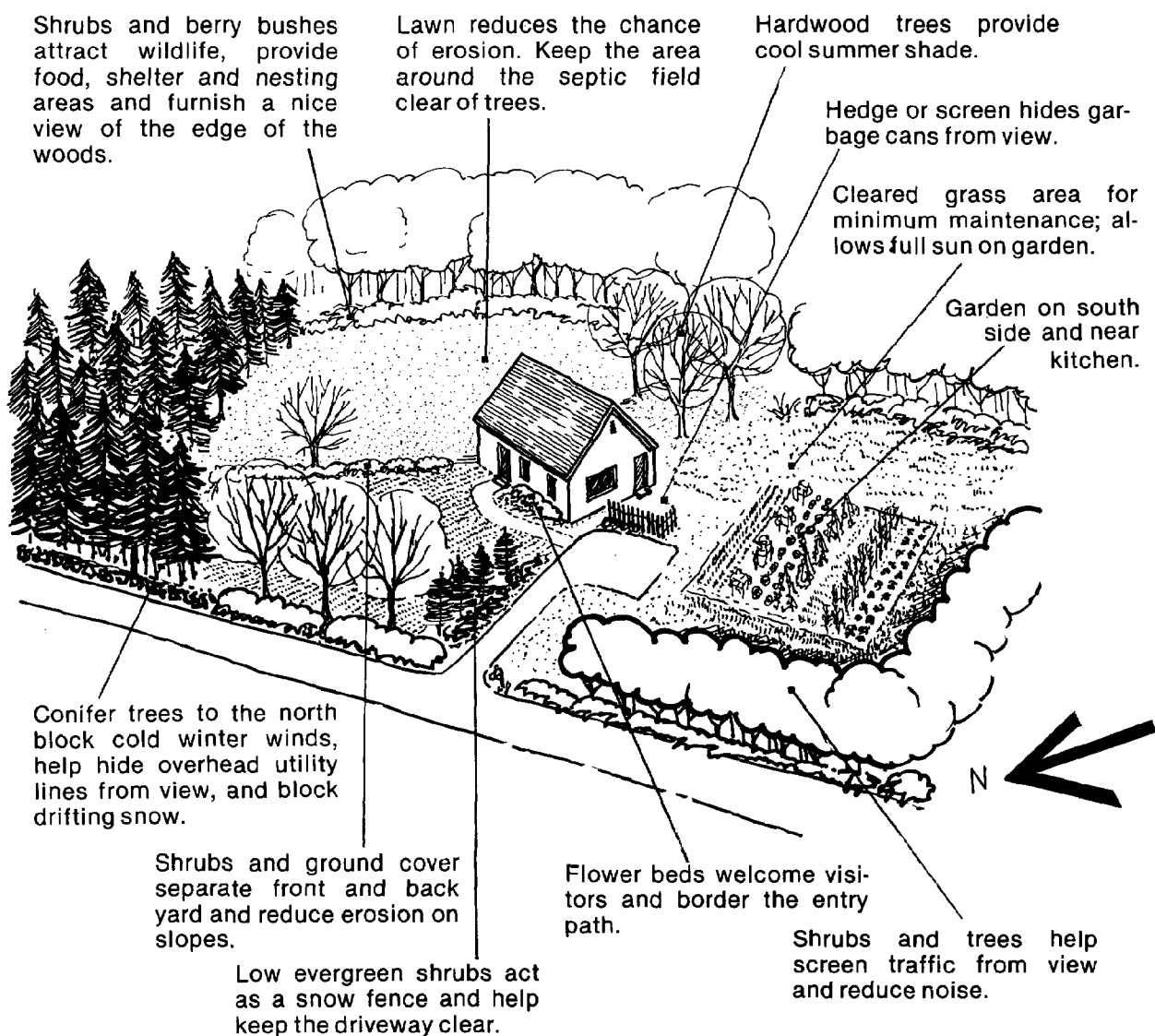
- selecting colors and materials that match those used on nearby houses.
- designing your home so it looks similar to nearby homes. (Remember the traditional New England house has white painted clapboard or shingles, a dark roof with a steep (35 to 45 degree) pitch and upright, rectangular windows positioned in a pleasing, simple pattern.)



Plant according to a plan

Planting trees, shrubs, lawns and ground cover around your home makes it more attractive. However, if you plant according to a plan the plant materials you use can serve other important functions as well. Carefully

plan on paper first, considering what purposes the planting serves and how different plantings can be combined to create natural "walls" and "carpets."



Driveways

Before you build a driveway

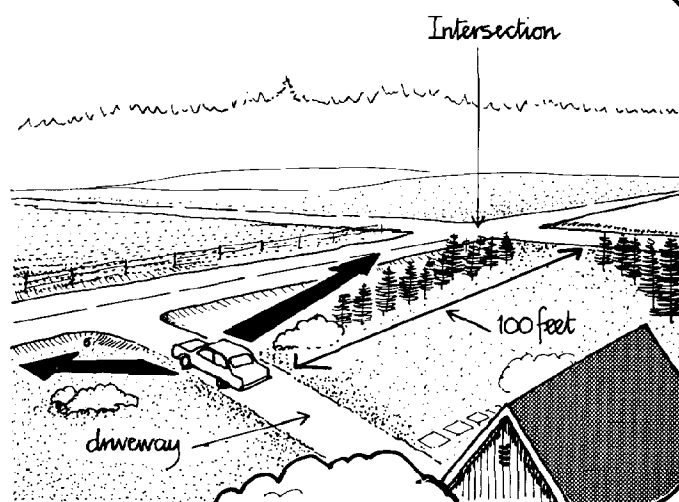
Driveways should be located, designed and constructed so that they are safe, maintenance free, easy to plow, convenient and attractive. Driveways on State or State-aid highways should not be built until the location has been approved, and a permit ob-

tained, from the appropriate Maine Department of Transportation Division Office. In some towns driveways entering a town road also require a permit, so check with your local officials.

The driveway location

Locate the driveway entrance so that it:

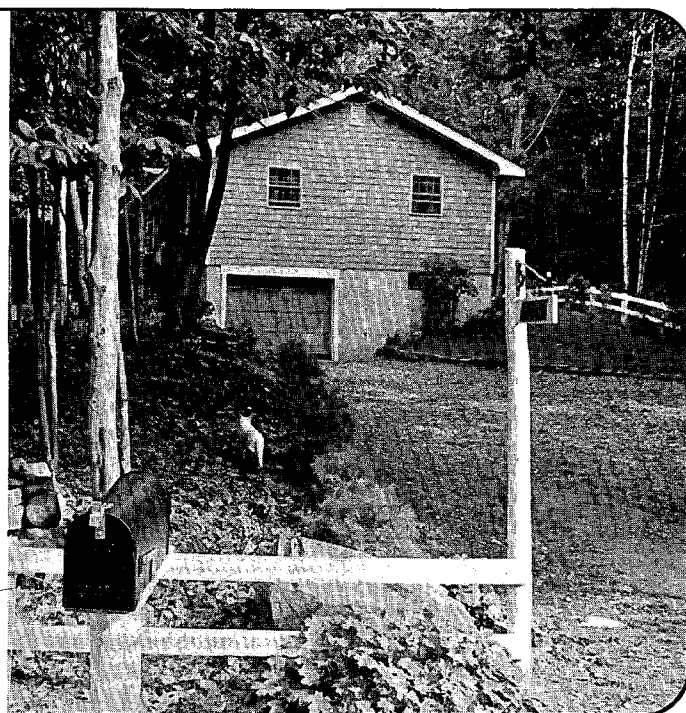
- allows you to stop and start to enter the main road easily, especially in icy conditions
- allows you to see approaching traffic easily
- is at least 100 feet from an intersection
- is located on well-drained soils
- is not on a steep slope.



Driveway design

Design the driveway so that:

- it is well drained and does not act as a drainage channel
- culverts, if needed, are large enough to handle spring-time water volumes
- it meets the main road at about a 90 degree angle
- there is space to park cars, turn around, and store snow
- it is not in the center of the view from the house
- you avoid cutting large attractive trees.

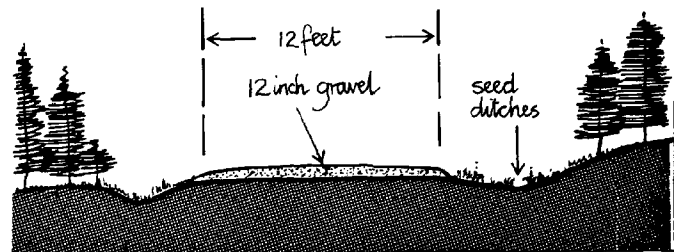


Driveway construction

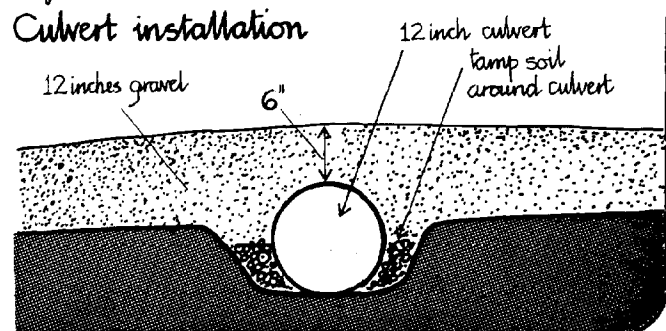
Construct the driveway so that:

- it is at least 10 feet wide
- top soil is removed before at least a 12 inch gravel base is provided
- the surface is gently sloped to allow runoff into side ditches
- the grade is no more than about 7% (seven foot rise in 100 feet)
- areas where vegetation is removed, such as in ditches, are seeded
- culverts are at least 12 inches in diameter and 20 feet long. (If a State driveway permit is required, the Department of Transportation will determine the culvert size the owner must purchase. The Department will install the culvert at no charge.)

Cross section through driveway



Culvert installation



Driveway length in rural areas

If you live in the country, help maintain the feeling of open space by setting your home well back from the road. The extra driveway plowing this may involve is off-set by the fact that you will have privacy, a larger front yard

and safety for your children. On longer driveways consider curving the driveway to fit with the land and avoid a straight view to the house from the highway.



Energy saving ideas

Make your building tight

The least expensive, yet most effective way to minimize heat loss from your home is to make it "tight." This means that cracks around the doors, windows, and the basement walls are eliminated or made as small

as possible with weather stripping and caulking. Anywhere from 30% to 60% of your heat loss occurs in these places, so build tightly!



Let the sun shine in

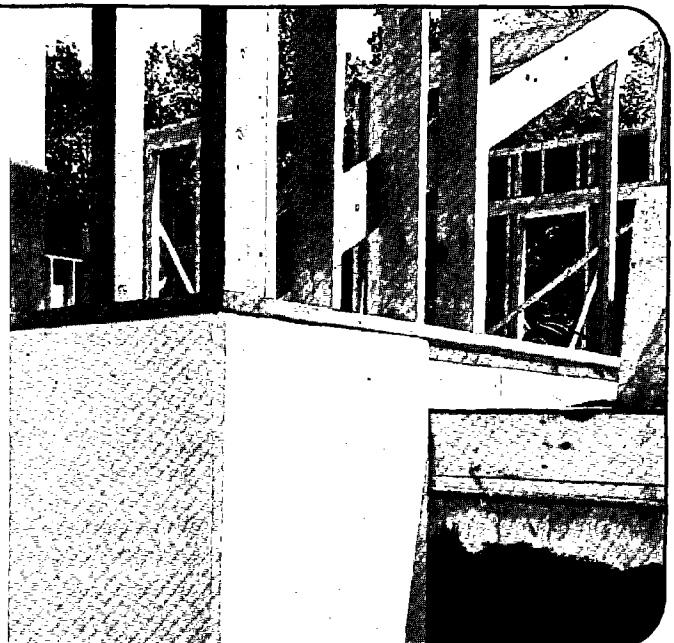
Gain heat during daylight hours in the fall, winter, and spring by facing large windows to the south. Minimize heat gain in summer by building eaves that block out this hot summer sun, or by using hardwood trees. Minimize heat loss by making windows on north walls small and by using double or triple glazed windows.

The photograph shows an energy-efficient house that faces south and has interior insulated shutters (see page 23). Hardwood trees to the south will keep out the summer sun.

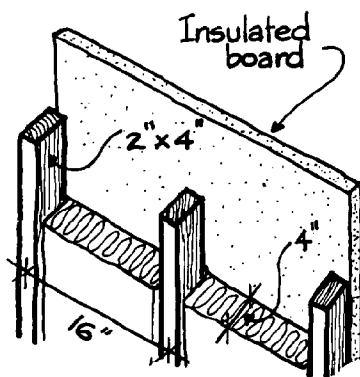
Use the earth, go underground

Rooms that are underground or partially underground, are cool in summer and warm in winter if they are well insulated. In combination with at least 2 inches of a "Styrofoam" type insulation the earth acts to moderate daily outside temperatures. Underground structures work well provided they are well drained, properly waterproofed and adequately reinforced.

Foam type insulation can be bought in sheets or sprayed directly onto basement walls. A well insulated basement means lower fuel bills.

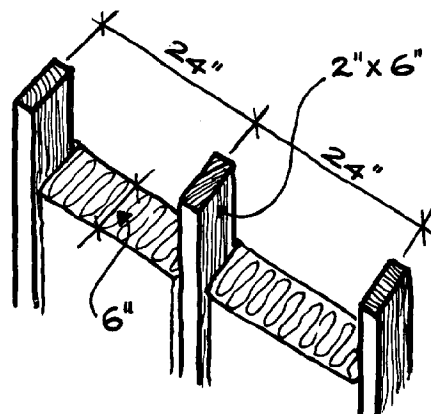


Increase the amount of insulation in your walls



When you build:

- Use 2" x 6" wall studs at 24" centers and 6" of insulation (instead of 2" x 4" studs at 16" centers).
- Or, use 2" x 4" wall studs with insulated sheathing and 4" of insulation.

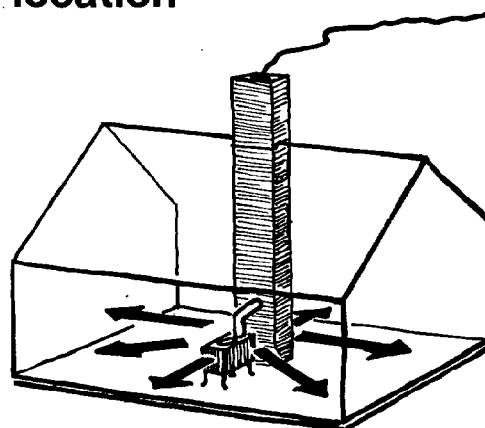


Build your chimney in a central location

Place your chimney at a central point so that heat from it (and stoves), can radiate throughout the house.

An uninsulated chimney on an outside wall loses heat to the outdoors and will have a bigger creosote problem.

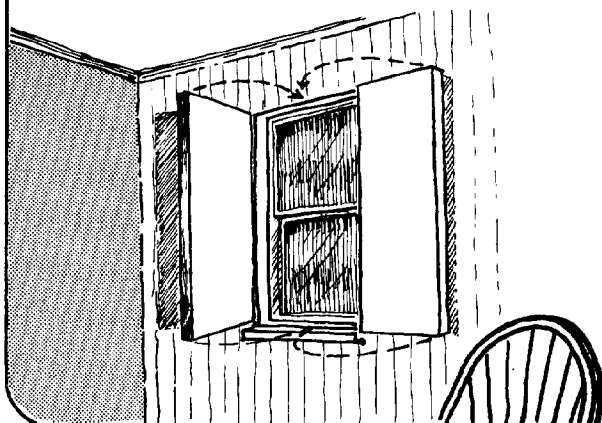
The more bricks or stones you use to build the chimney the better. They retain heat and release it slowly—even after the fire is out.



Keep heat inside

Heat gained through sunny windows by day can be trapped inside by night, with:

- Heavy curtains
- Hinged, insulated shutters (see sketch)
- Sliding insulated shutters or
- Removable insulated panels.



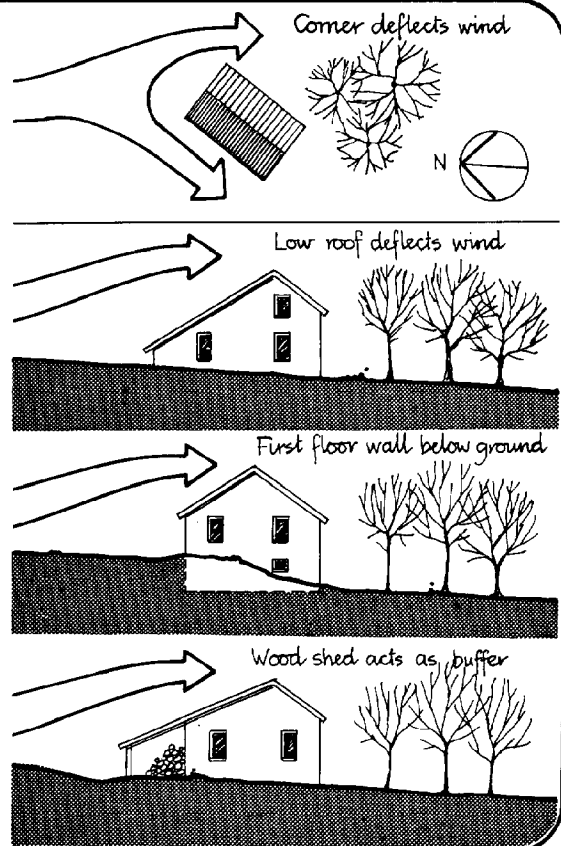
Minimize exposure to cold winds

Design your home so that a minimum amount of wall surface faces into cold winter winds. This can be done by:

- locating a corner or short wall toward the wind
- making a low roof which deflects the wind
- putting all or part of the wall below ground
- placing a garage or wood shed to the north so it acts as a buffer against the wind.

Build Small

Finally, you may choose to build small. Less material, less space to heat and less exposure to the wind, means lower building, heating and maintenance costs.



Insulate everywhere

Good insulation reduces heating bills. Your walls, floors, attic, crawl spaces, ceilings, etc. should be well insulated. The table below suggests R-numbers suitable for Maine's climate. R-numbers refer to the resistance different insulation has to winter heat loss. The higher the R the better. R-numbers are usually marked on insulation packages.

Surface	R-Number
Outside walls	15 to 25
Basement walls	10 to 15
Concrete floor slab	10 to 15
Floor (over basement)	10
Attic floors	30 to 38
Roof (if attic is heated)	30 to 38

A story

The House That Jack Built

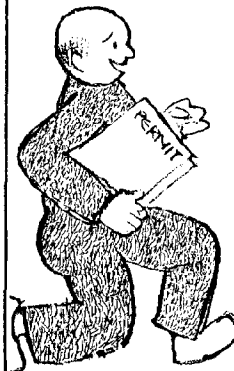
This is the house that Jack built.
This is the Board
That gave the permit
That allowed the house that Jack built.

This is the evaluator,
That checked the soils
That satisfied the Board
That gave the permit
That allowed the house that Jack built.

This is the inspector,
That okay'd the plumbing
That was done by the evaluator
That checked the soils
That satisfied the Board
That gave the permit
That allowed the house that Jack built.

This is the official,
That signed the form
That pleased the inspector
That okay'd the plumbing
That was done by the evaluator
That checked the soils
That satisfied the Board
That gave the permit
That allowed the house that Jack built.

This is Jack.
He's confused,
But he has a:
Zoning Permit,
Soils Test,
Plumbing Permit and
Building Permit,
And he can now build his house!



What is a subdivision?

Subdivisions must meet State requirements

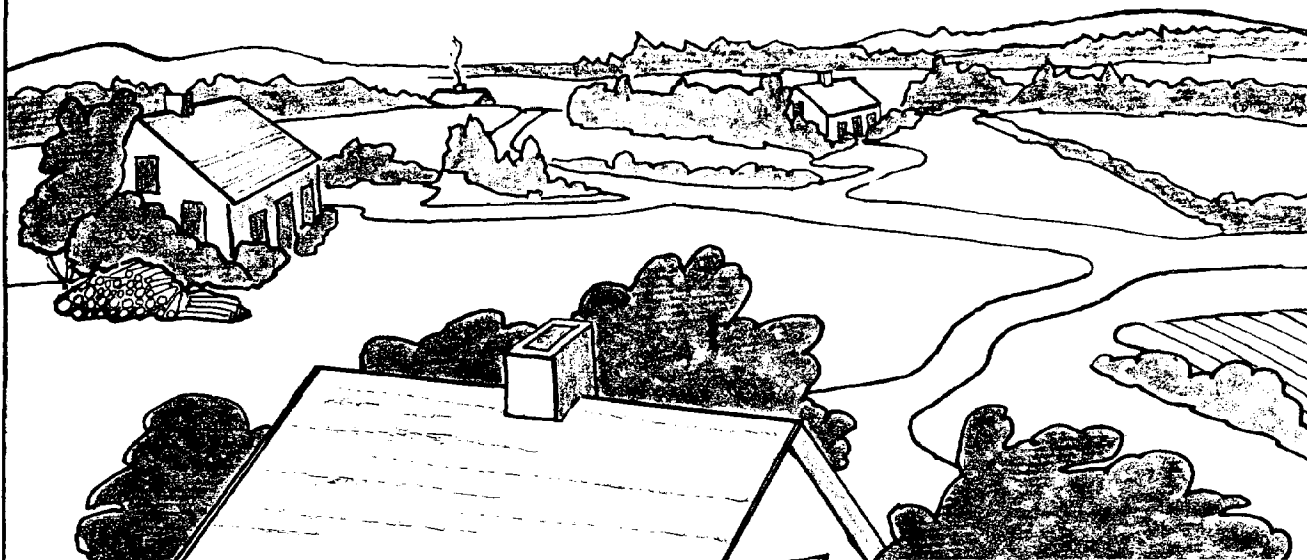
In Maine, a subdivision is broadly defined as the division of a parcel of land into 3 or more lots (each of which is less than 40 acres in size) within any 5-year period.

All subdivision plans require local and/or state approval, depending on the location and size of the subdivision.

If you plan to subdivide land located in an unorganized area, contact the Maine Land Use Regulation Commission, State House,

Augusta, Maine, 04333 and ask for a Subdivision Permit Application. See also Section 3, page 17.

If you plan to subdivide land located in an organized town contact the local officials or planning board and find out how to apply for a permit. Other helpful information can be found in Section 2 of this Handbook especially pages 5 and 21.



Before you subdivide

Before you subdivide land be sure you have all the information you need to proceed. This might include: a legal description of the land; a boundary survey; a topographical map; copies of zoning and other regulations; an aerial photo; a knowledge of available utilities and services; data on market conditions; etc.

Consider retaining professional help. Surveyors, engineers, and land planners can assist you and help assure a quality subdivision that meets regulations and brings in a reasonable return on your investment.

Most of these people are familiar with working with planning boards or State agencies as well.

Review the ideas on the following pages; they are designed to assist you in planning a small subdivision of no more than 10 lots.

Note: More information on subdividing is available in the L.U.R.C. publication, "Subdividing in the Wildlands of Maine." See the address above.

Planning a subdivision

Factors to consider

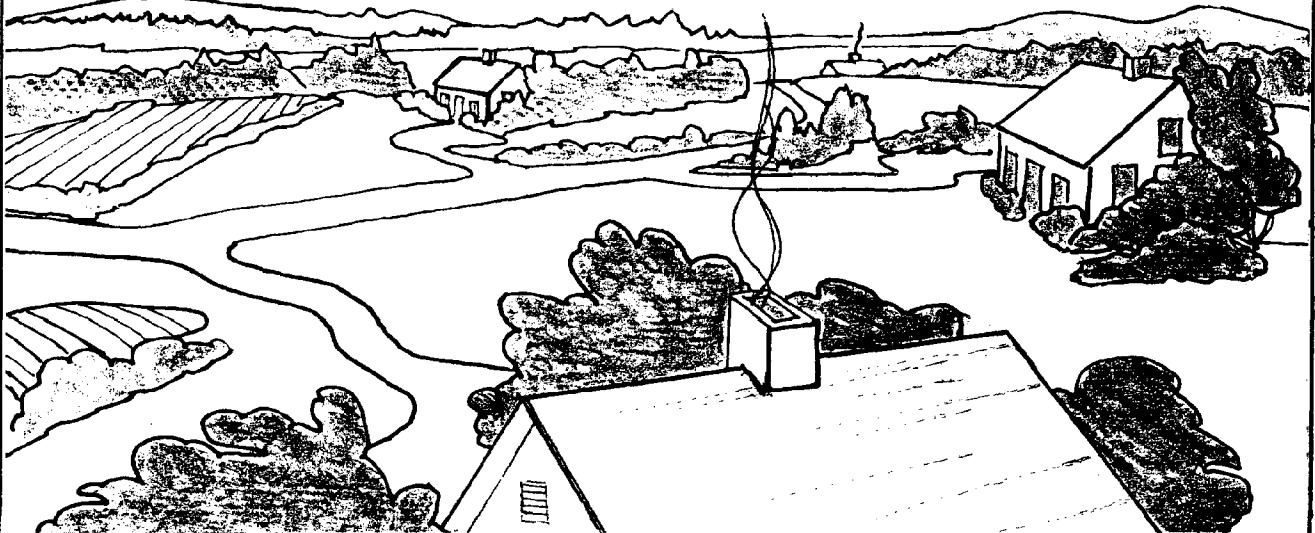
If you are planning to subdivide land, take the following factors into consideration:

1. Regulations which apply to your land
2. The type of development you want
3. The character of the land you wish to subdivide

A successful subdivision plan must meet regulatory requirements, be designed to meet market demand and fit into the landscape.

1. Regulations

State and/or local laws, ordinances and regulations often dictate what uses are allowed on the land. They also can establish what lot sizes, building set back requirements, and standards you must conform to when laying out the subdivision. To find out what applies in your situation check with the appropriate agencies and/or officials suggested on page 26.



2. The type of development

Your knowledge of the area (or the expert advice of a marketing consultant or realtor), will help you decide what type of subdivision is best for the land. Ask yourself: What will sell best? Will small lots for seasonal homes sell better than a few large lots? What can you afford to invest in improvements to the land to make it more attractive? What will fit the character of the land and the neighborhood?

3. The character of the land

The existing characteristics of the land you plan to subdivide should help dictate how it is planned. Analyze the land's good and bad features to make the best possible use of existing soils, slopes, views, vegetation and other features. Pages 28 and 29 show you one method of analyzing the land.

Knowing the land

Careful analysis of the land can help assure a good lot lay out

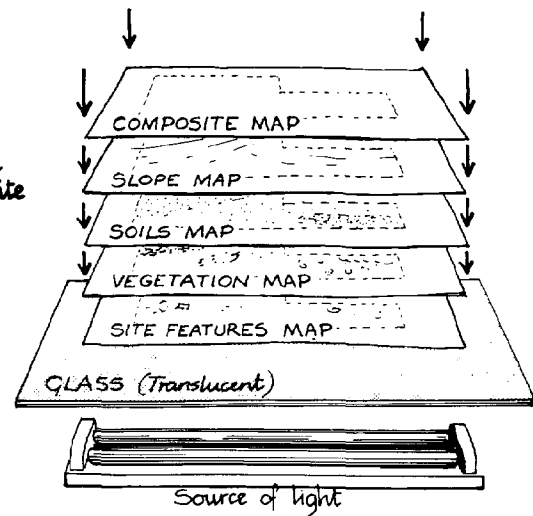
Make a map of the slopes, soils, vegetation, and other site features. Use one color to show those features and areas that represent opportunities. Mark areas that will pre-

sent problems in another color. (See the examples below.) If possible, use tracing paper for your mapping. Make the drawings as large as possible.

Putting it all together

The tracing paper maps described below record what features are on your land and indicate both problem areas and opportunities. By putting all the maps together, on top of each other, and holding them up to a good light source you can produce a composite map. Such a map summarizes all the characteristics, good and bad, of the land. Use this map to help lay out the final lot plan or have a professional make the maps for you.

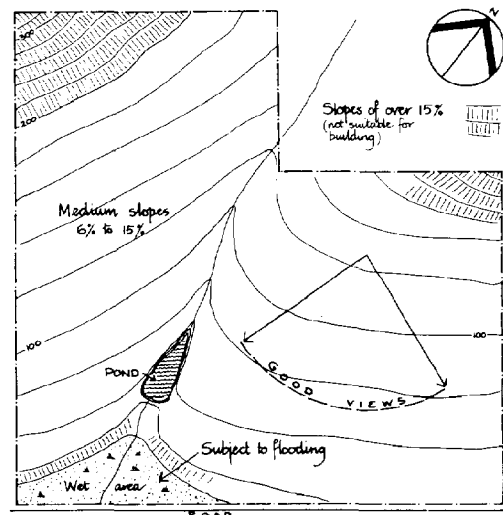
How to
make a
composite
map.



The slope map

Make a contour map that shows the elevations of the land and color in all areas that slope steeply (more than 15%, or 15 feet in 100 feet). U.S. Geological Survey maps will provide you with contour information. Such areas are usually inappropriate for building or for disposing of sewage. Note also:

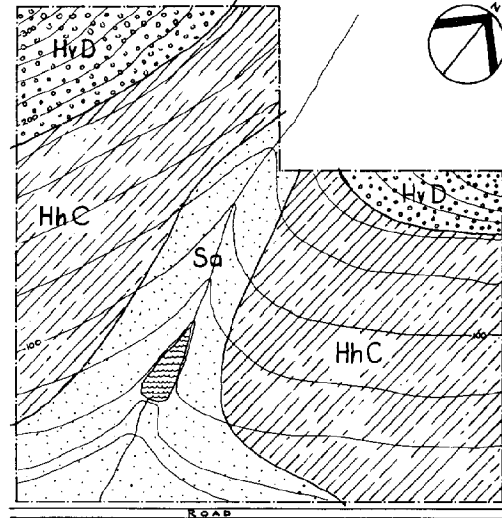
- south facing slopes (they are often the best building sites)
- natural drainage channels (avoid building there)
- flat areas subject to flooding and
- locations that have good views.



The soils map

Have a licensed Soils Evaluator assist you in drawing a soils map that shows:

- soils that are unsuitable for building upon or using for sewage disposal
- soils that are good for sewage disposal and
- areas where bedrock may prevent basement, trench or similar construction.



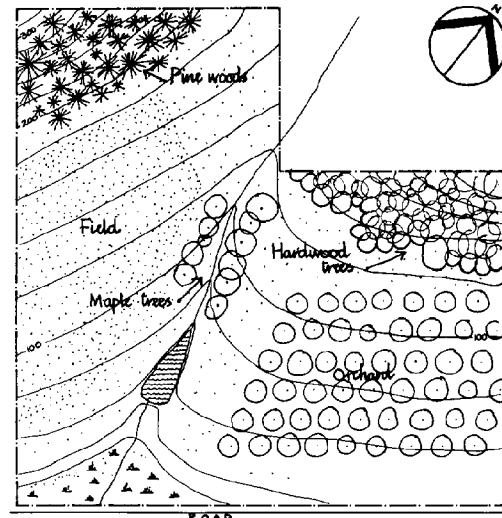
The vegetation map

Use an aerial photograph to determine exactly where different vegetation types are located on the land (or use an up-to-date U.S.G.S. map). Draw: stands of hardwood trees, stands of softwood trees, fields, and wetland vegetation.

When you lay out lots use the tree and open space features of the land to advantage.

The diagram at the top of page 31 shows how to relate lot lines to vegetation and other features.

If you plan to subdivide woodland property try to identify the best tree groups and preserve them.



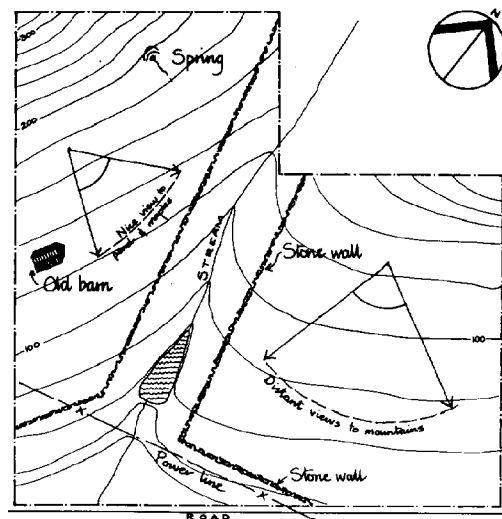
Site features map

Make a final map of your land that shows other features. For example draw in:

- stone walls
- streams and/or springs
- shorefront features
- rock outcrops
- existing buildings and neighboring buildings.

When you lay out the lots emphasize the good features and avoid creating lots that face ugly features.

Place a major feature in a common area so all lot owners may enjoy it.



Laying out lots

Good design can reduce costs and increase value

Every lot in a well-designed subdivision plan should be attractive and should contain marketable features. Good design can reduce lot improvement costs, improve lot values, and result in a cost-effective subdivision.

Make sure that your plot plan provides lots that contain reasonable slopes and soil

suitable for building. Use the results of your land analyses. (See pages 28 and 29). Be certain that you meet all regulatory requirements. Tailor each lot to fit the land and the market. The following notes provide further ideas on how to lay out lots.

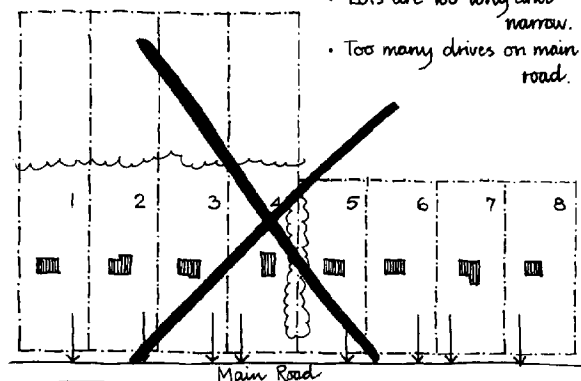
Laying out lots

Size the lots so that they at least meet applicable regulatory requirements. Find out if local zoning or subdivision codes establish minimum lot size and minimum frontage requirements. If your land is in an unorganized area check with the L.U.R.C. staff in Augusta to find out what minimums apply.

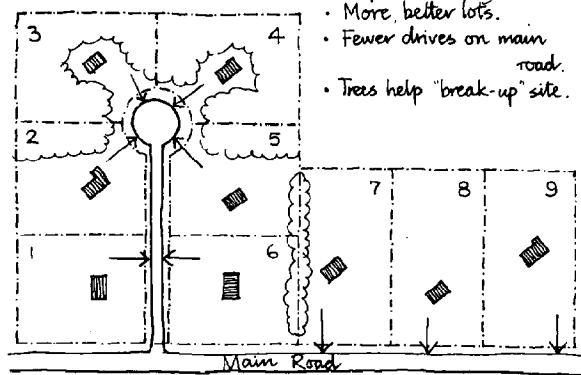
Once you have established the range of lot sizes that you feel will sell best, lay out the lots. Try different plans before you decide which is best. Furthermore:

- avoid monotonous, repetitive lots that have no individuality
- if you plan to build roads, establish a sensible road plan before you determine the final lot locations
- let the natural landscape, or new planting, "break-up" the site so that each lot is private
- avoid long, narrow "spaghetti-like" lots where the back yard is so narrow that it is useless
- avoid creating numerous driveways off well-travelled main roads and
- visualize how storm water will flow over the land and then make sure each lot is well drained.

Before



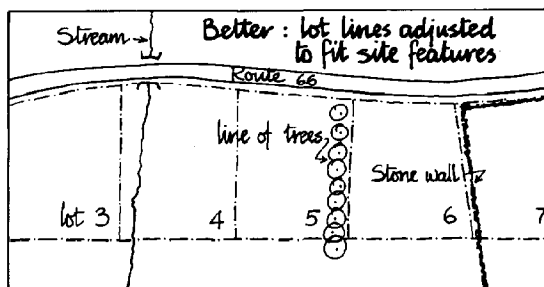
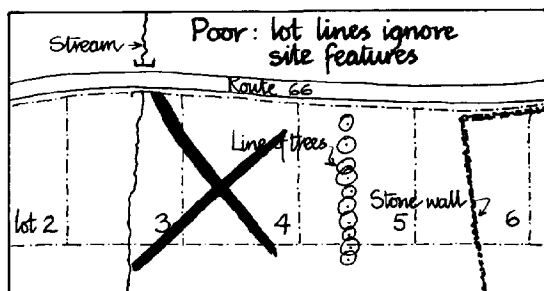
After



Lot lines

Before you finalize the plot plan be sure the lot lines coincide with site features. Do not simply cut the site up into rectangular lots with no regard for trees, walls, streams, ridge lines, etc.

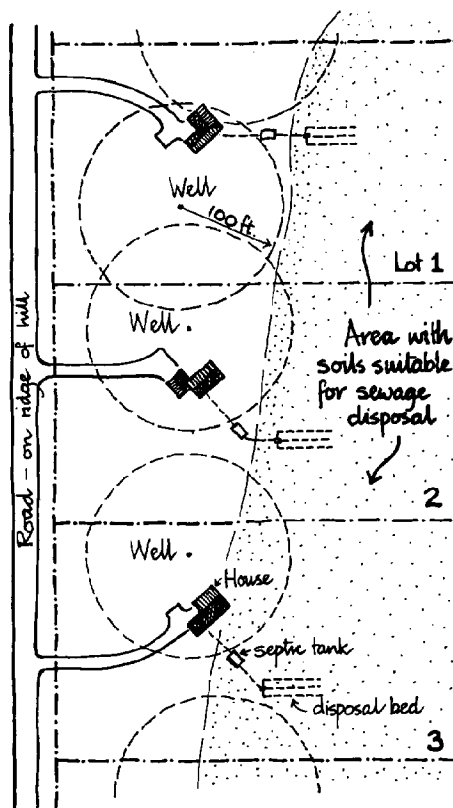
For example, in the top sketch at right, the rigid 200 foot frontage dimensions make lots 3 and 6 difficult to build on. In the bottom example, changing the lot lines slightly makes lots 3, 6 and 7 more attractive, better to build on, and therefore worth more.



Test the lots

Consider what lot size will sell best. Visualize a house, driveway, waste disposal system and well on each lot. Recognize that L.U.R.C., local regulations, and Plumbing Code regulations will dictate the distance some of these are set apart. Once you have a rough plot plan and an idea of what the dimensions of each lot will be, test each lot, by drawing a house, well, and waste disposal system on each lot. You should be able to locate a house, well, and waste disposal system, on each lot, so that:

- the waste system is downhill from the house and lies on suitable soils
- the house and waste system are set back the required distances from the property lines and
- all waste systems are at least 100 feet away from all existing or planned wells. (Draw a 100 foot radius circle around all wells. No waste disposal system should be located within any circle.)



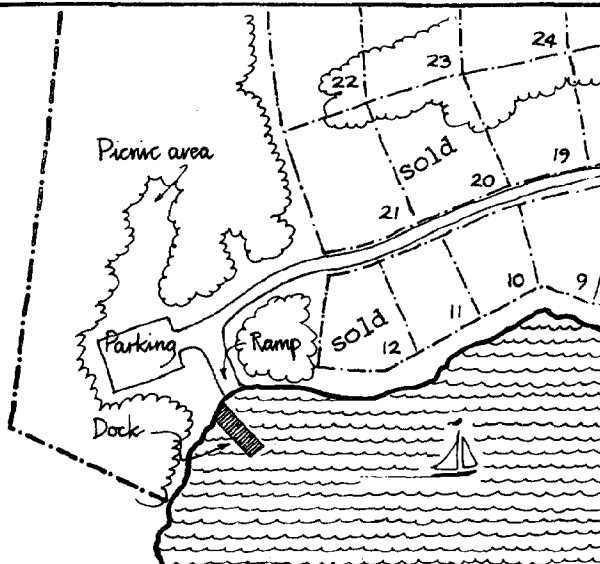
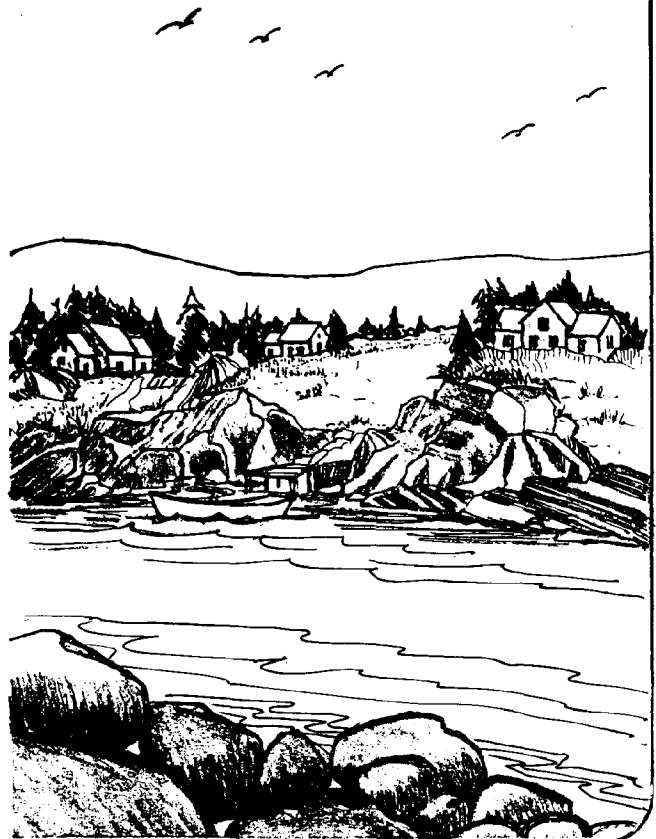
Subdividing shoreland property

Shoreland subdivision requires careful planning

The subdivision of shoreland property on lakes, ponds, streams, rivers, or the coast requires forethought and careful planning. Some important subdivision planning considerations are described on pages 26 through 31. Shoreland subdivisions involve some special considerations. For example, special shoreland zoning regulations apply in these areas and access to the water is an important consideration.

Shoreland zoning

Special shoreland zoning regulations apply within 250 feet of the shoreline of most streams, lakes and the coast. Check these requirements by referring to Section 2 page 18, if your land is in an organized town, or Section 3 pages 25 and 30 if your land is within an unorganized area.



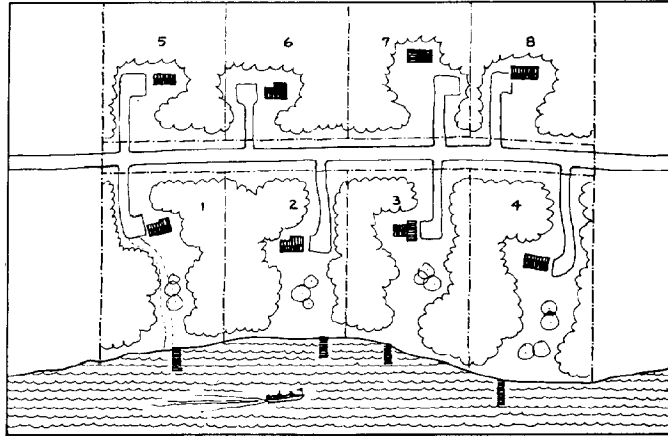
Access to the shore

Shoreland property owners want access to the water for swimming, boating and fishing. Docks, ramps and clearings on each shore-front lot can detract from the natural, scenic character of the shoreline, and are an expense to each land owner. One inexpensive and effective solution to this problem is to provide one central beach, dock and ramp area that is common to all owners in your subdivision. Such an area can add to the value of your subdivision while maintaining the natural character of most of the shoreline.

Three ways to subdivide shoreland

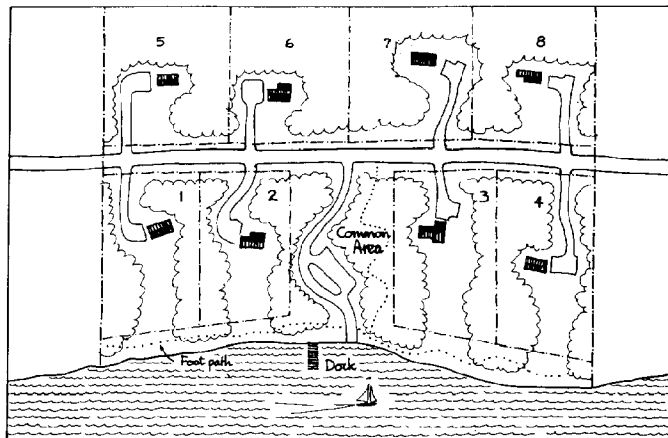
1. The traditional approach

In this example the 4 shorefront lots enjoy direct access to the water. The back lots do not. The shorefront lots should sell at a good price; the back lots will not.



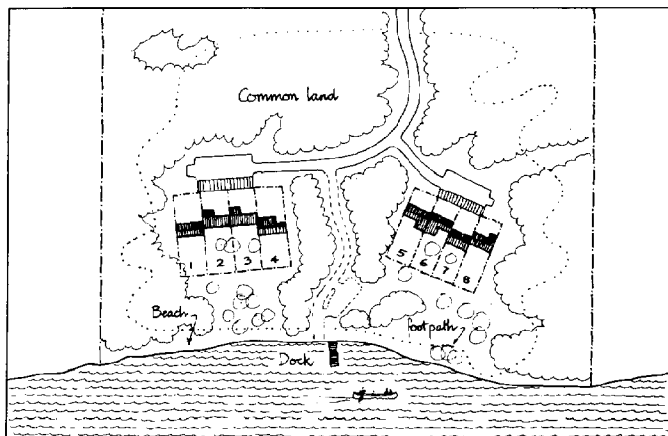
2. The conservative alternative

In this example the lots nearest the water are set back to provide common ground for foot paths, a dock, and boat launching area. The value of the shorefront lots will remain high. The value of the back lots will increase because the owners have access to the lake.



3. The cluster alternative

Here two "clusters" of vacation camps form a village-like group. Sewage is handled by a central or packaged system and camp owners share trails, beach, boat, dock and ramp. The natural character of the landscape is retained and all 8 owners enjoy the benefit of shorefront lots.





A Story—Priscilla Subdivides

Priscilla Dumont decided to subdivide the shoreland property that had been in the family for years. The income from the sale of four lots would assure her a steady income now that she had retired. Priscilla hoped to get a good price for the land and had old George Brown, the local realtor, stop by one day to discuss prices.

It was George who made Priscilla aware of the regulations that apply to subdivisions and shorefront property development. He explained that he himself had seen the regulations as a nuisance when the town adopted

them some years back, but he had changed his mind since.

As George saw it, the regulations helped assure quality development, they would provide Priscilla with the assurance that her property would be developed correctly and they would help him get a good price for her lots.

Priscilla still lives down the road from the subdivided land. She has made friends with her new neighbors and enjoys driving by the property. Both she and her new found friends are well satisfied.

● Surface mining your land

Surface mining for sand, gravel, loam and clay

Surface mining alters the land and can result in erosion problems, muddy sediment-laden streams, visual pollution and safety hazards. These problems can be minimized however, by:

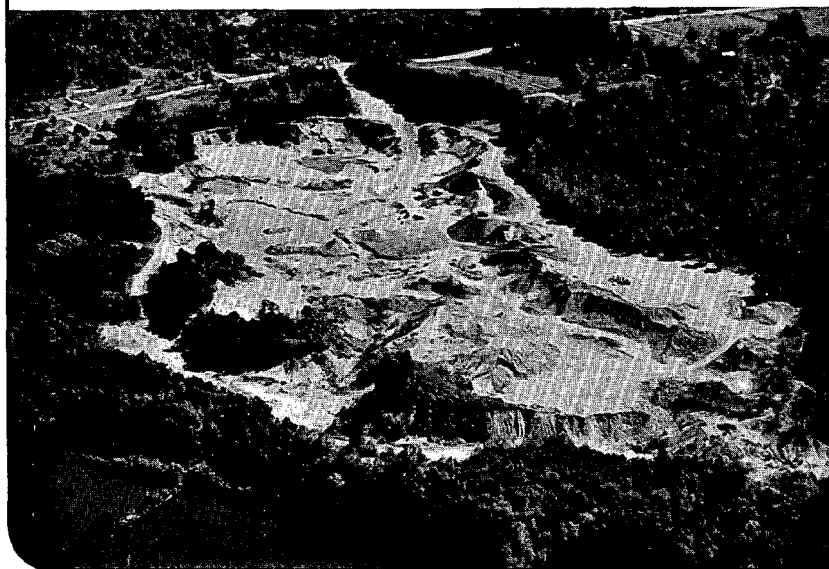
- careful planning before mining begins
- extracting the material safely, according to a plan
- reclamation and
- meeting applicable regulations or standards.

To find out what State regulations might apply to your situation contact the Department of Environmental Protection, State House, Augusta, Maine, 04333. If your land is in an unorganized area, contact the Land Use Regulation Commission, State House, Augusta, Maine, 04333. See also Section 3 of this Handbook, page 37.



Plan before operations begin

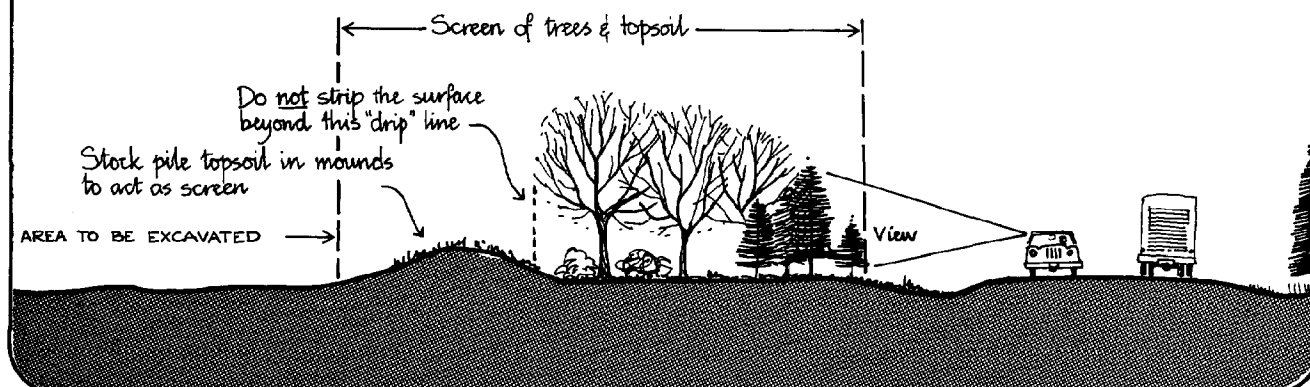
- Allow space for a screen of trees so that the pit is hidden from view and set back from any road.
- Locate the access road so that there is no direct view from the main road into the pit.
- Locate the pit access road where trucks can enter and exit safely.
- Set aside an area where topsoil can be stock-piled.
- When clearing a pit site of trees, sell the stumpage.



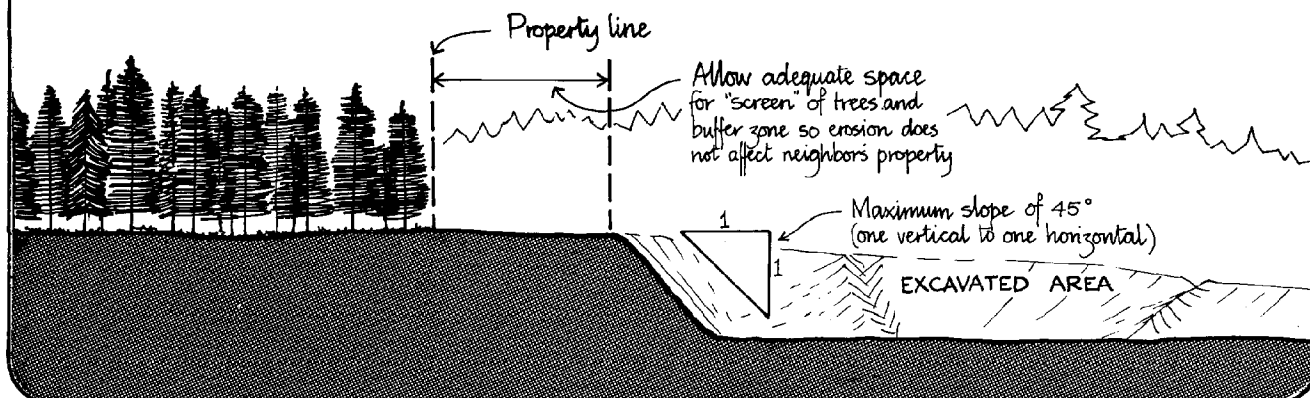
Regulations may require that the pit be set back a certain distance from any body of water. Find out about any such set back requirements and determine what measures should be taken to prevent pit run-off from entering the water.

Extracting borrow materials

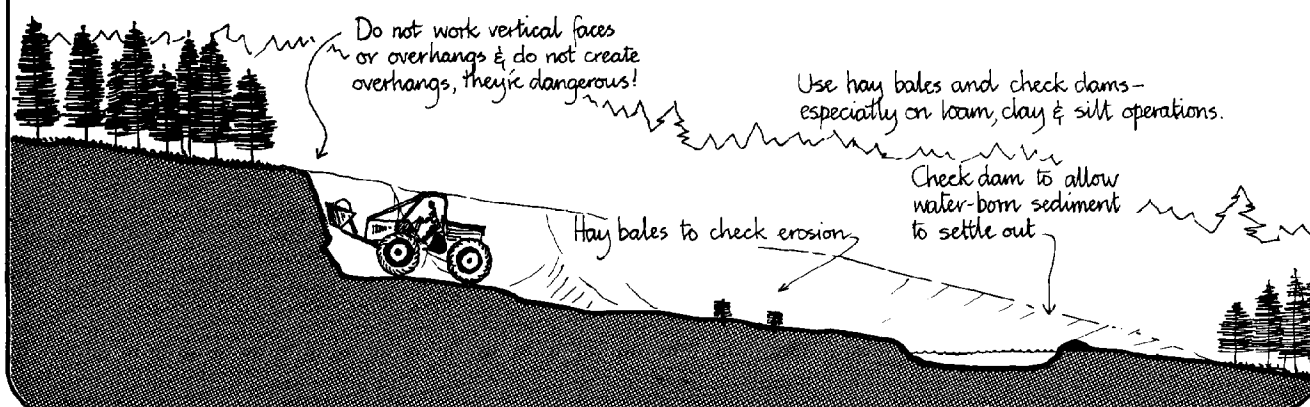
Provide a "screen" around the pit



Do not excavate close to a property line



Prevent erosion and avoid accidents

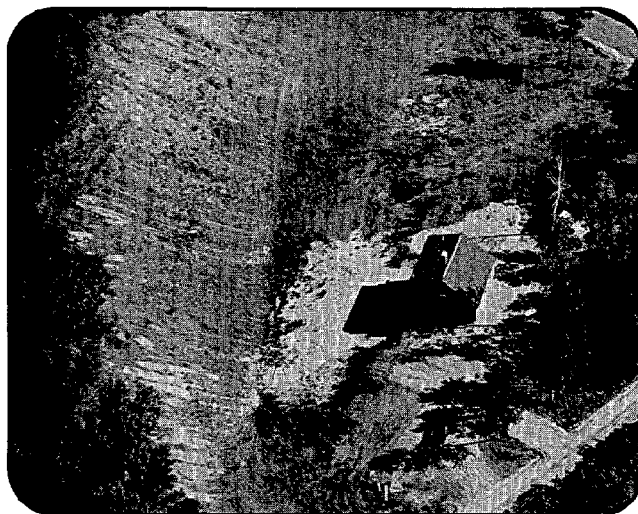


Reclaiming a borrow pit

Reasons for reclaiming a pit

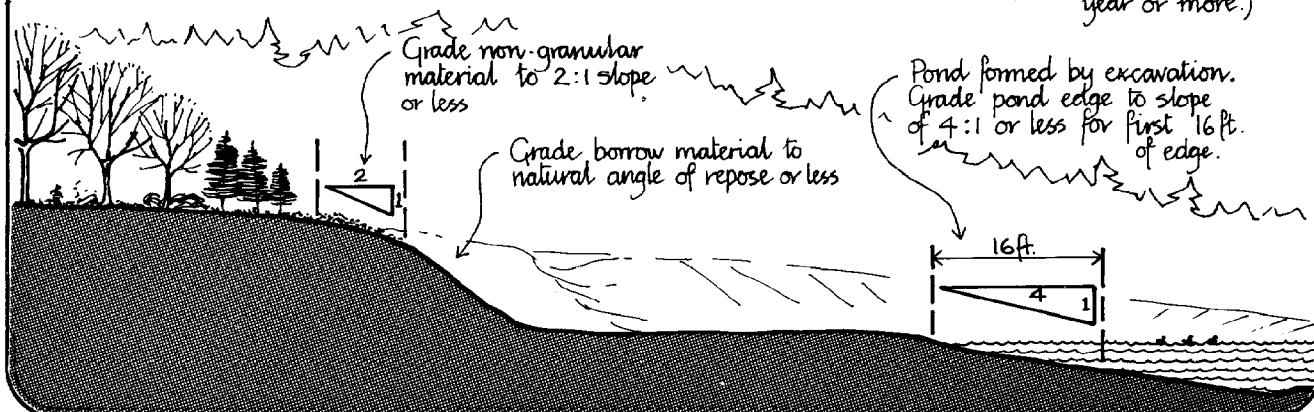
There are good reasons for reclaiming a borrow pit when operations are complete:

- a reclaimed pit can be used for development (see photo), or recreation or reforestation
- a reclaimed pit will not usually collect junk
- a restored pit helps protect ground water supplies because the new vegetation acts to filter and purify surface water.

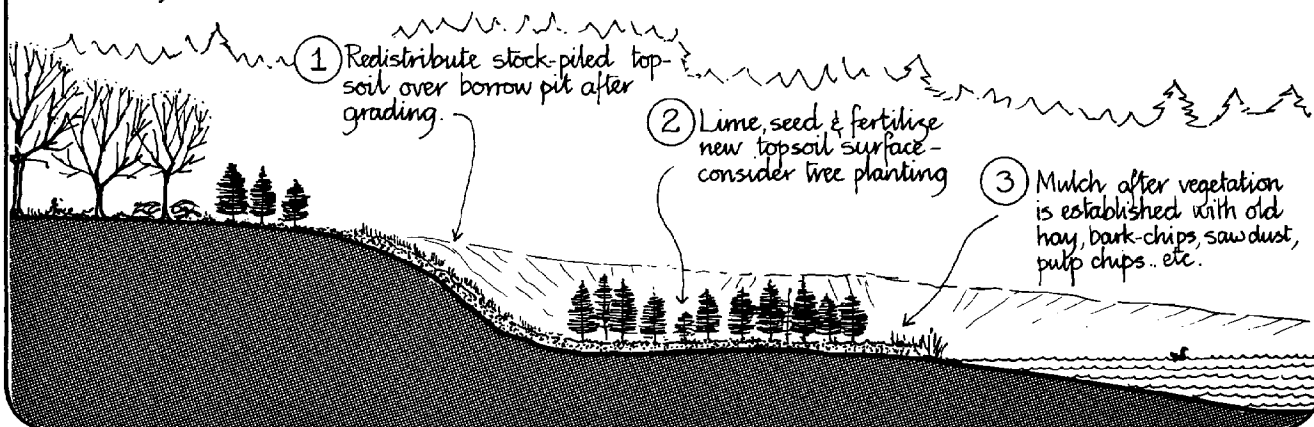


Reclamation prevents erosion

Grade slopes for safety, revegetation & erosion prevention after use, (if operation is closed for year or more.)



Lime, seed and fertilize



Sign design ideas



On-premise signs

Well-designed signs are good for your business. The following information will help you design an effective "on-premise" sign. On-premise signs are signs placed on property or on structures where the advertised article, service or information is available. On-premise signs are subject to regulation in the unorganized towns and some municipalities. If you plan to erect an on-premise sign in an unorganized area, write or call the Land Use Regulation Commission, State House, Augusta, Maine, 04333; telephone: (207) 289-2631. Elsewhere check with your local officials.

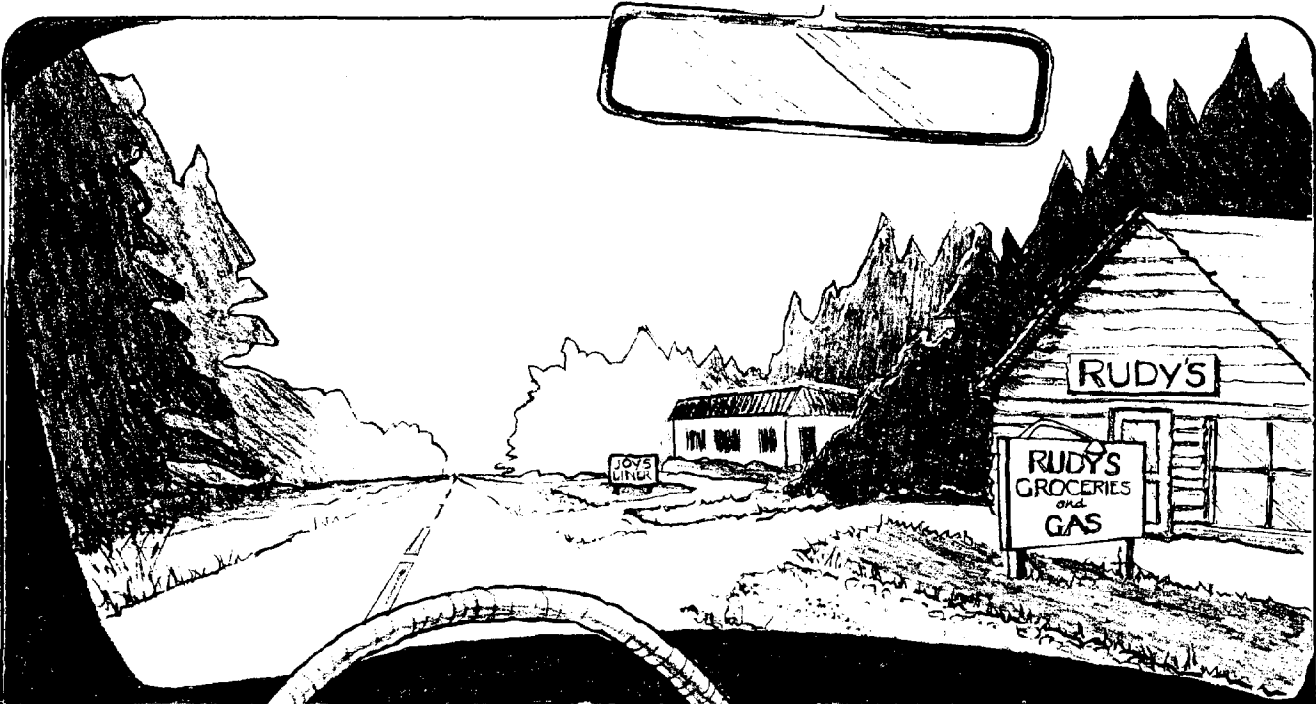
Off-premise signs, which are signs located away from the property, business, or point of interest they are advertising, are not discussed here. Off-premise signs are subject to Maine's "billboard" law. For more information on this law write to the Right-of-Way Division, Department of Transportation, State House, Augusta, Maine, 04333 or call: 207-289-2616.

Use a minimum of words

Signs that will be seen from a moving vehicle should contain a minimum of words. The average person cannot remember a lot of information, so make the sign clear, short and to the point. Limit the number of letters you use to about 30 letters. Avoid using a lot of colors. Limit the color scheme to two contrasting colors.



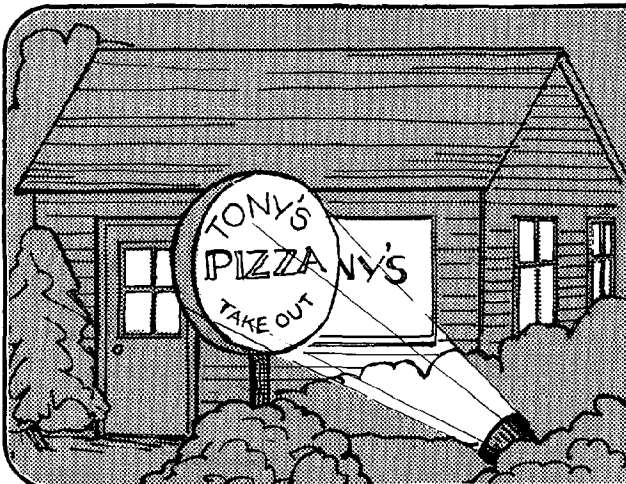
How to design a good sign



Match the lettering size to the speed at which motorists approach

It is generally recommended that sign letters relate to the average speed at which motorists approach. Use the table at the right as a guide.

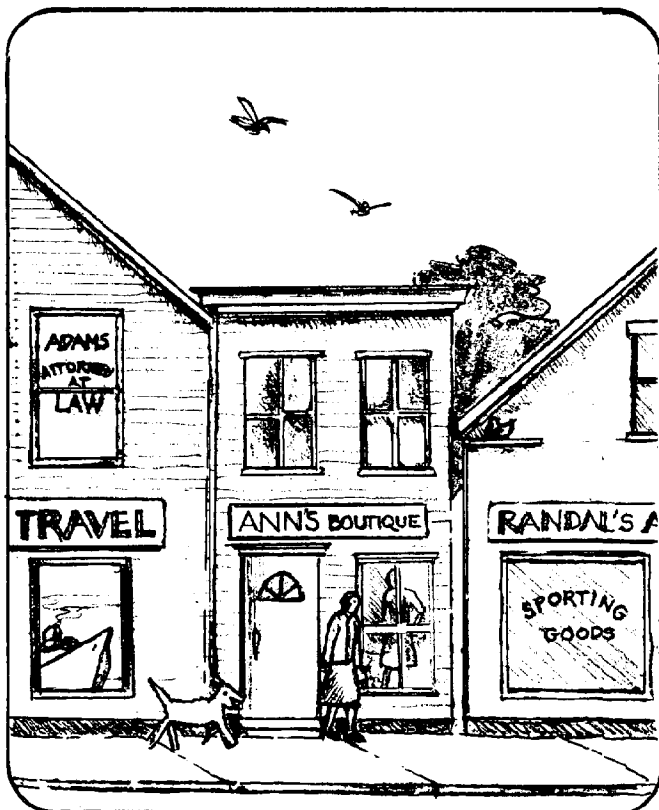
Average speed	Lettering size
15 m.p.h.	4½ inches
30 m.p.h.	9 inches
45 m.p.h.	13 inches
55 m.p.h.	17 inches



Keep it simple

Select a simple, geometrical shape as the background for your sign. Do not confuse people with complicated shapes or a lot of "add-on" signs on different boards or panels.

If you illuminate the sign, select a fitting that gives an even light. Ground flood lights are usually more effective than overhead lights. A light inside the sign itself is still more effective.

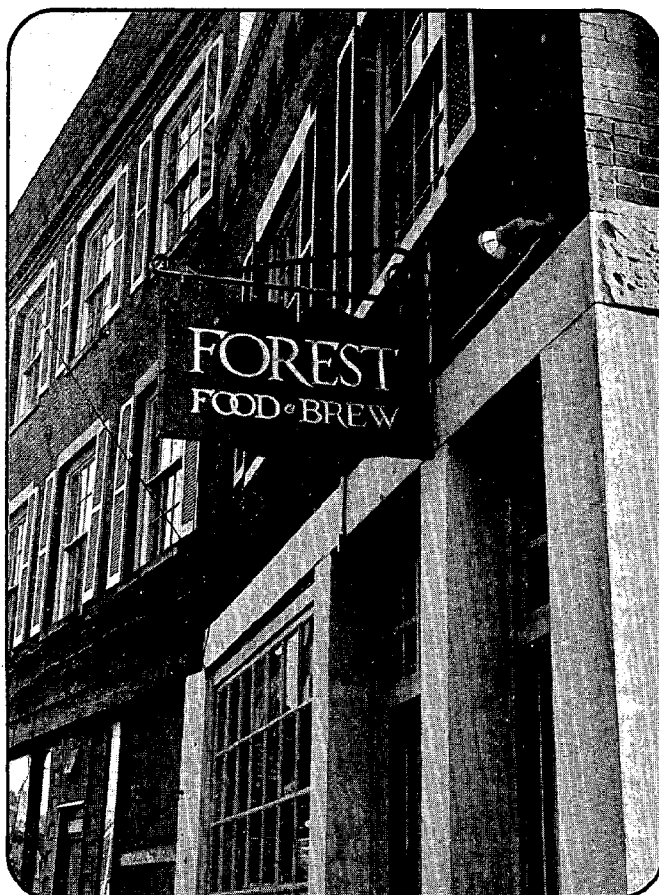


Wall signs

Signs on the walls of buildings should be carefully located so they can be seen easily. Wall signs should also be located so that they:

- enhance the architecture of the building
- are not dispersed all over the building walls
- are low enough to be seen by pedestrians and
- do not project above the roof line.

Fewer signs will make the message clearer and improve the appearance of your building.



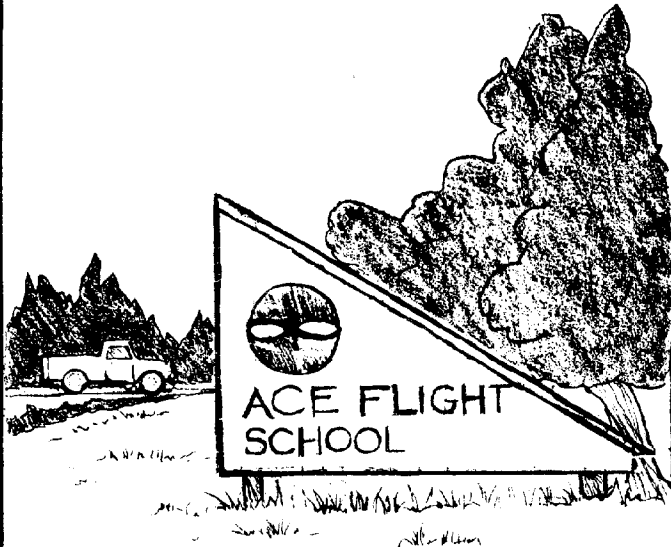
Projecting signs

Projecting wall signs are best where traffic is slow moving (less than 30 m.p.h.) and where the sign will catch the eye of the pedestrian.

For good visibility all projecting wall signs should:

- be installed at a 90 degree angle to the wall
- be erected so they do not project above second floor window sill heights
- be separated by about 50 feet so they are not crowded and
- have a minimum number of words and letters.

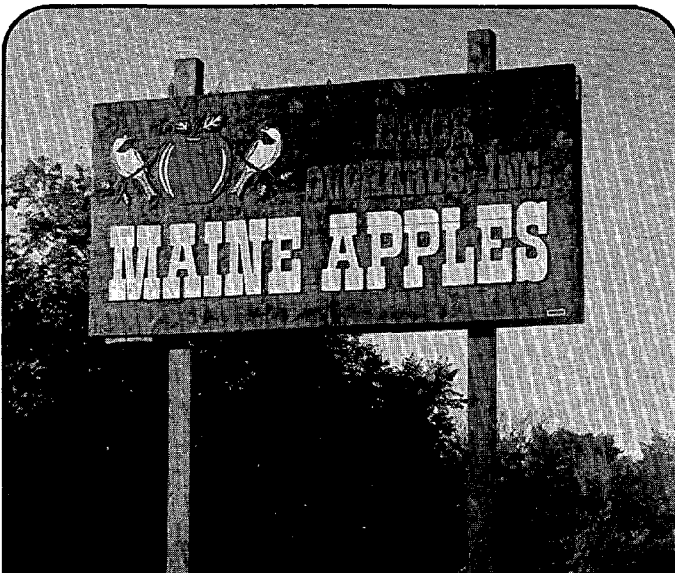
Free-standing signs



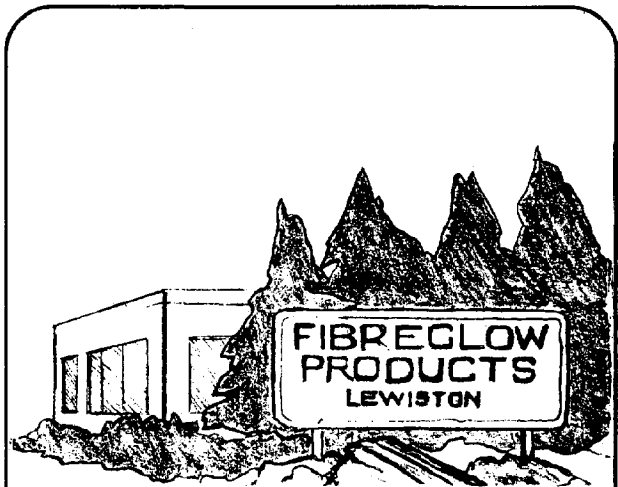
A simple geometric shape for the sign will draw attention to it. Signs set low to the ground attract attention. Use symbols to catch the eye and keep the number of words to a minimum.



One well-placed, good-looking sign will catch the eye better than a jumble of poorly designed and constructed signs.



In rural areas your sign will attract attention and be more pleasing to the eye if you use natural materials and/or colors for the signboard and the lettering.



Use landscaping materials (shrubs, trees, earth mounds) to frame and draw attention to the sign. Do not make the sign too high because your costs increase and the height does not make the sign any easier to read.

More information

The following publications may provide useful design ideas or suggestions to increase the energy efficiency and proper siting of your home:

1. **Maine Housing**—a newsletter publication of the Maine State Planning Office

available from:

Technical Services Division
Maine State Planning Office
State House
Augusta, Maine 04333

2. **Erosion Control on Building Sites**

available from:

USDA Soil Conservation Service
Federal Building
Sewall Street
Augusta, Maine 04330

3. **In the Bank, or Up the Chimney?**
A dollar and cents guide to energy-saving home improvements.

available for \$1.70 from:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402.
Stock number 023-000-00297-3

4. **Insulating the Old House**, c. 1977 by Greater Portland Landmarks, Inc., 165 State Street, Portland, Maine

5. **30 Energy Efficient Houses You Can Build**, by Alex Wade and Neal Ewenstein. Rodale Press, Emmaus, Pennsylvania

6. **Site Planning**, by Kevin Lynch. M.I.T. Press, Cambridge, Mass.

7. **Landscape Planning for Energy Conservation**, published by the Environmental Design Press, P.O. Box 2187, Reston, VA 22090

8. **Developer's Handbook**, by Allen Carroll. Coastal Area Management Program, Department of Environmental Protection
Hartford, Connecticut

9. **Homesite Planning Guide**, prepared by Planning Aid, P.O. Box 211, Halifax, Nova Scotia.

10. **Cost Effective Site Planning—Single Family Development**. Published by: National Association of Home Builders
15th and M Street, N.W.
Washington, D.C. 20005

11. **Street Graphics**, by William R. Ewald, Jr. Published by: American Society of Landscape Architects Foundation
1425 H Street N.W.
Washington, D.C. 20005

The following organizations teach individuals how to build their own energy efficient homes. Call or write to:

1. **The Shelter Institute**
38 Center Street
Bath, Maine 04530
Tel: 207-443-9084

2. **Cornerstones**
Wing School of Shelter Technology
54 Cumberland Street
Brunswick, Maine 04011
Tel: (207) 729-0540

The following agencies can provide assistance relating to energy efficiency for homes.

1. Residential Energy Audit Program
Office of Energy Resources
55 Capitol Street
Augusta, Maine 04333
2. Maine Audubon Society
118 Old Route 1
Gilsland Farm
Falmouth, Maine 04105
Tel: 207-781-2330
3. Home Builders Association of Maine
187 State Street
Augusta, Maine 04330
Tel: 207-622-4990

Other sources of information

1. The Northeast Carry Library has many useful publications dealing with design ideas and energy efficiency for homes. For information call or write to:
Northeast Carry
110 Water Street
Hallowell, Maine 04347
Tel: (207) 623-1667
2. The University of Maine campus nearest you may be able to provide information on publications and courses dealing with home design and energy efficiency.

3. Your local library may contain publications on design ideas and energy efficiency for homes.

4. Contact an architect, engineer, or landscape architect in your area. These professionals deal with problems of site planning design and energy efficiency of homes, and may be able to assist you.

5. National Solar Heating and Cooling Information Center
Box 1607
Rockville, Maryland 20850

call toll free: 1-800-523-2929

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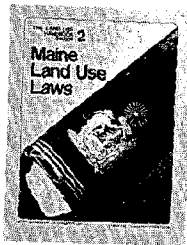
Robert Cummings

Photograph on page 14.

Down East Housing Improvement Corporation, Brunswick, Maine. Photograph on page 22 (top photo).



1 Your Land



2 Maine



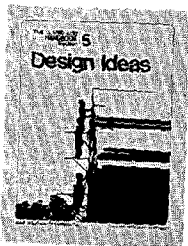
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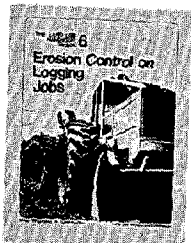


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5 Design Ideas

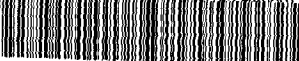


6 Erosion Control on Logging Jobs

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